

# Chemistry in Everyday Life

## Question1

Which from following statements is NOT correct regarding tannins?

MHT CET 2025 5th May Evening Shift

Options:

A.

These avoid browning of freshly cut potato.

B.

These are formed from polyphenols.

C.

These are obtained by polymerisation of quinones.

D.

These are generated after cutting fruits or vegetables.

**Answer: A**

**Solution:**

Depending on the pH of fruits/vegetables, polyphenols are released.



Thus, on cutting, some fruits/vegetables turn brown.

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## Question2



**What is the natural source of salicylic acid?**

**MHT CET 2025 26th April Evening Shift**

**Options:**

A.

Cinnamon

B.

Willow plant

C.

Turmeric plant

D.

Indian gooseberry

**Answer: B**

**Solution:**

The correct answer is:

**Option B – Willow plant**

Salicylic acid was first derived from the bark of the willow tree (genus *Salix*). It is the natural precursor for the synthesis of acetylsalicylic acid (aspirin).

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**Question3**

**Identify a medicinal compound having amide linkage.**

**MHT CET 2025 26th April Morning Shift**

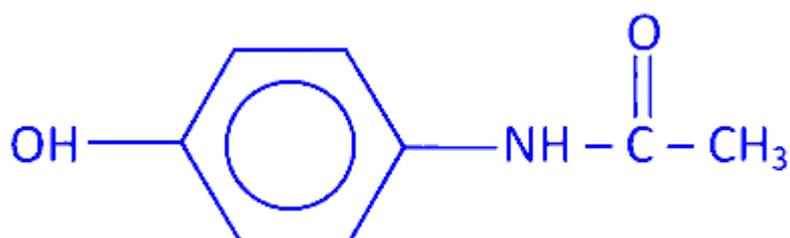
**Options:**

- A. Aspirin
- B. Methylsalicylate
- C. Curcumin
- D. Paracetamol

**Answer: D**

### **Solution:**

Paracetamol contains an amide linkage (-NHCO-) in its structure.



## **Question4**

**Which from following is useful to extract analgesic and antimicrobial compounds?**

**MHT CET 2025 25th April Evening Shift**

**Options:**

- A. Turmeric
- B. Cinnamon
- C. Citrus fruit
- D. Clove

**Answer: D**

### **Solution:**

The correct option is:

### Option D: Clove

Clove (*Syzygium aromaticum*) contains eugenol and other phytochemicals that have **analgesic (pain-relieving) and antimicrobial** properties.

- **Eugenol** is well-known for its local anesthetic effect (hence used in dental care) and broad antimicrobial action.

While turmeric, cinnamon, and citrus fruits also have antimicrobial or anti-inflammatory properties, clove is specifically recognized for both analgesic *and* antimicrobial activity. 

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## Question5

**What is the medicinal property of Eugenol?**

**MHT CET 2025 23rd April Morning Shift**

**Options:**

- A. Antiseptic
- B. Antioxidant
- C. Analgesic and antimicrobial
- D. Antidiabetic

**Answer: C**

**Solution:**

The medicinal property of **Eugenol** is mainly:

 **Option C: Analgesic and antimicrobial** 

Eugenol, a major component of clove oil, has well-known **pain-relieving (analgesic)** and **antimicrobial** properties, which is why it is widely used in dentistry (to relieve toothache) and in formulations with antiseptic or disinfectant purposes.

Would you like me to also summarize the additional pharmacological properties (like antioxidant and anti-inflammatory effects) for better understanding?

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## Question6

Which from following medicinal properties is exhibited by curcumin?

MHT CET 2025 22nd April Evening Shift

Options:

- A. Analgesic
- B. Antiseptic
- C. Antioxidant
- D. Antimicrobial

**Answer: B**

**Solution:**

Curcumin is the active ingredient of the plant turmeric which has antiseptic property.

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## Question7

What is formula of mustard gas?

MHT CET 2025 22nd April Morning Shift

Options:

- A.  $\text{COCl}_2$
- B.  $\text{Cl} - \text{CH}_2 - \text{CH}_2 - \text{S} - \text{CH}_2 - \text{CH}_2 - \text{Cl}$
- C.  $\text{CCl}_3\text{NO}_2$
- D.  $\text{CCl}_2\text{F}_2$



**Answer: B**

### Solution:

- **Option A:**  $\text{COCl}_2 \rightarrow$  This is *phosgene*, not mustard gas.
- **Option B:**  $\text{Cl} - \text{CH}_2 - \text{CH}_2 - \text{S} - \text{CH}_2 - \text{CH}_2 - \text{Cl} \rightarrow$  This is *sulfur mustard* (commonly known as mustard gas). ✓
- **Option C:**  $\text{CCl}_3\text{NO}_2 \rightarrow$  This is *chloropicrin*, not mustard gas.
- **Option D:**  $\text{CCl}_2\text{F}_2 \rightarrow$  This is *Freon-12*, a refrigerant, not mustard gas.

✓ Correct Answer:

**Option B:**  $\text{Cl} - \text{CH}_2 - \text{CH}_2 - \text{S} - \text{CH}_2 - \text{CH}_2 - \text{Cl}$

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## Question8

**Identify an antiseptic compound from following.**

**MHT CET 2025 21st April Evening Shift**

**Options:**

- A. Salvarsan
- B. Thymol
- C. Sulphanilamide
- D. Chloromphenicol

**Answer: B**

### Solution:

Compound	Medicinal properties
Salvarsan, Chloromphenicol, Sulphanilamide	Antibiotic
Thymol	Antiseptic

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## Question9

Identify false statement regarding aspirin.

MHT CET 2025 20th April Evening Shift

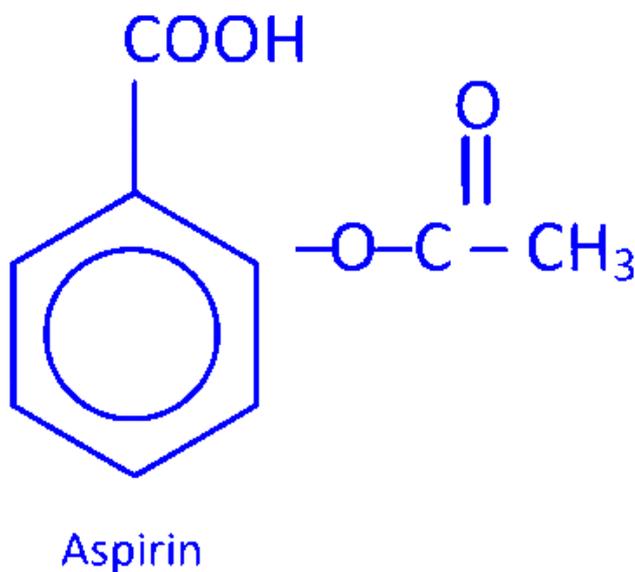
Options:

- A. It contains amide linkage.
- B. It is obtained from salicylic acid.
- C. It has fewer side effects than salicylic acid.
- D. It has stomach irritating side effects.

Answer: A

Solution:

Aspirin contains ester linkage.



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## Question10



**Which from following statements is correct regarding a detergent sodium lauryl sulphate?**

**MHT CET 2025 20th April Morning Shift**

**Options:**

- A. It is anionic detergent and is used in toothpaste.
- B. It is cationic detergent and is used as household detergent.
- C. It is cationic detergent and is used as hair conditioner.
- D. It is an ether and used as liquid detergent.

**Answer: A**

**Solution:**

The correct answer is:

**Option A: It is anionic detergent and is used in toothpaste.**

**Explanation:**

- Sodium lauryl sulphate (SLS) has the formula  $\text{CH}_3(\text{CH}_2)_{11}\text{OSO}_3^-\text{Na}^+$ .
- It is an **anionic detergent** because it contains a negatively charged  $\text{SO}_4^-$  group.
- Anionic detergents are commonly used in toothpaste, shampoos, and cleaning products.

**Other options are incorrect because:**

- It is not a cationic detergent (so B and C are wrong).
- It is not an ether (so D is wrong).

**Therefore, Option A is correct.**

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**Question11**

**Identify the source of linen from following:**

## MHT CET 2024 10th May Evening Shift

### Options:

- A. Flax plant
- B. Cotton plant
- C. Cane plant
- D. Rubber plant

**Answer: A**

### Solution:

The source of linen is the flax plant. Linen is a textile made from the fibers of the flax plant, which is scientifically known as *Linum usitatissimum*. It is one of the oldest textiles in the world, known for its strength, durability, and natural luster. The production process involves retting, drying, crushing, and beating the fibrous stalks of the flax plant to release the flax fibers, which are then spun into yarn and woven or knitted into linen fabrics.

In summary, the correct option is:

**Option A: Flax plant**

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## Question12

**Which is the most commonly used refrigerant Freon-12?**

## MHT CET 2024 9th May Evening Shift

### Options:

- A. Monochloromonofluoromethane
- B. Dichlorodifluoromethane
- C. Chlorodifluoromethane
- D. Dichlorofluoromethane

**Answer: B**

## Solution:

Option B, Dichlorodifluoromethane, is the most commonly used refrigerant known as Freon-12. It is a chlorofluorocarbon (CFC) compound with the chemical formula  $\text{CCl}_2\text{F}_2$ . Freon-12 was widely used in refrigeration and air conditioning systems due to its stability and non-flammability. However, due to its ozone-depleting characteristics, its use has been phased out under international agreements like the Montreal Protocol.

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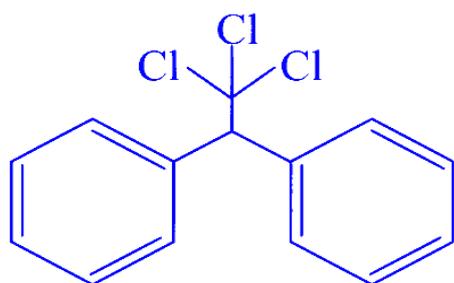
## Question13

Which of the following is a structural formula of DDT?

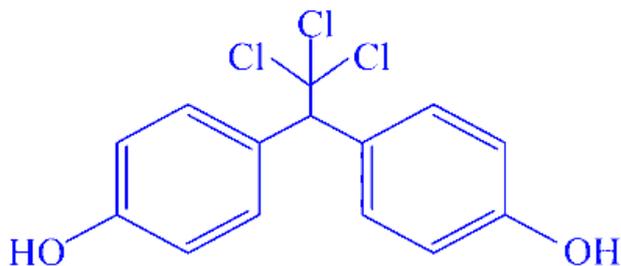
MHT CET 2023 14th May Evening Shift

Options:

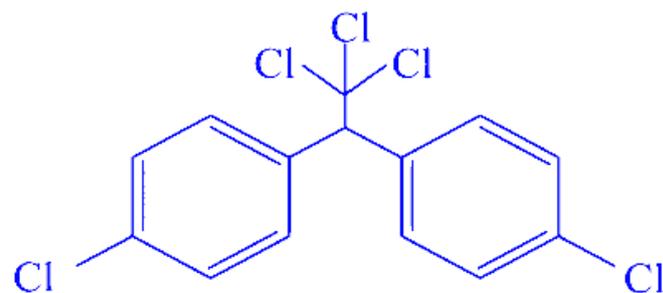
A.



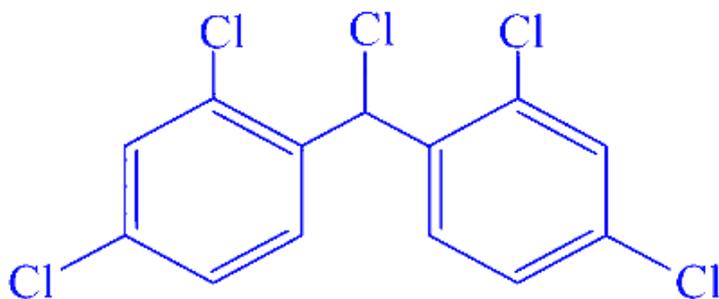
B.



C.

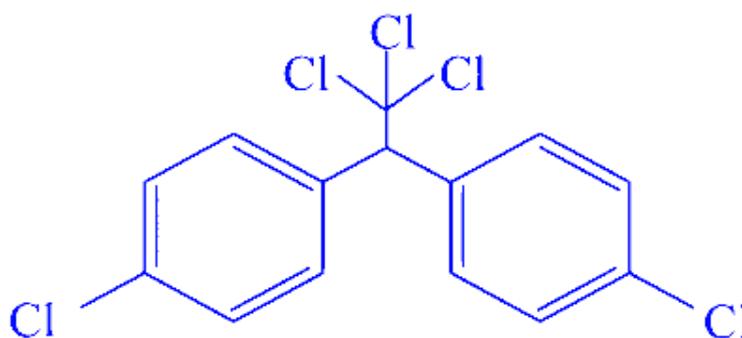


D.



**Answer: C**

**Solution:**



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## Question14

Which among the following statements is **TRUE** about gammexane?

**MHT CET 2023 11th May Morning Shift**

**Options:**

- A. It is an isomer of BHC.
- B. It is one of the herbicides.
- C. It is obtained from benzene by bromination.

D. It is monochloro derivative of benzene.

**Answer: A**

## Solution:

### Step 1: Recall what gammexane is

- *Gammexane* is the common name for **gamma-hexachlorocyclohexane** ( $\gamma$ -HCH).
- It is an **isomer of benzene hexachloride (BHC)**, which has several isomers ( $\alpha$ ,  $\beta$ ,  $\gamma$ ,  $\delta$ ).
- The  $\gamma$ -isomer is called *lindane* or *gammexane* and is used as an **insecticide** (not herbicide).

### Step 2: Evaluate each option

**Option A:** *It is an isomer of BHC.*

- Correct, gammexane = gamma-isomer of BHC.

**Option B:** *It is one of the herbicides.*

- Wrong, gammexane is an **insecticide**, not a herbicide.

**Option C:** *It is obtained from benzene by bromination.*

- Wrong, BHC (and thus gammexane) is obtained by **chlorination of benzene** under UV light, not bromination.

**Option D:** *It is monochloro derivative of benzene.*

- Wrong, it is a **hexachlorocyclohexane**, not monochloro.

**Correct Answer:**

**Option A: It is an isomer of BHC.**

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## Question15

**Which among the following compounds represents a soap molecule?**

**MHT CET 2022 11th August Evening Shift**



### Options:

- A. Ammonium salt of higher fatty acids
- B. Sodium salt of formic acid
- C. Potassium salt of higher fatty acids
- D. Ammonium salt of formic acid

**Answer: C**

### Solution:

Soaps are best represented by the salts of higher fatty acids (long-chain carboxylic acids) with sodium or potassium. These salts form when a strong base reacts with a fatty acid in a process called saponification. Soaps have a hydrophobic tail that is typically composed of a long straight-chain hydrocarbon and a hydrophilic head that contains the ionic part of the molecule.

Let's analyze each option:

**Option A:** Ammonium salt of higher fatty acids – This features the right type of acid (higher fatty acids) but the wrong cation, ammonium ( $NH_4^+$ ). Ammonium salts aren't typically used as soaps.

**Option B:** Sodium salt of formic acid – Formic acid is the simplest carboxylic acid and doesn't qualify as a higher fatty acid which is needed to form soap. Moreover, the resulting salt is not used as a soap due to its simple structure and lack of a long hydrophobic tail.

**Option C:** Potassium salt of higher fatty acids – This fits the definition of a soap, having a potassium ion ( $K^+$ ) combined with a higher fatty acid anion, making it a potassium soap.

**Option D:** Ammonium salt of formic acid – Similar to option B, this uses formic acid and has the ammonium ion, which is also not typically used in soap.

Therefore, **Option C**, the Potassium salt of higher fatty acids, best represents a soap molecule.

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## Question16

**Which among the following is a source of wool?**

**MHT CET 2021 24th September Evening Shift**

### Options:

- A. Goat



- B. Silk worm
- C. Sheep
- D. Blended cotton

**Answer: C**

### **Solution:**

The correct answer is **Option C: Sheep**. Here's why:

Wool is a natural fiber obtained from the fleece of sheep. It's known for its warmth, softness, and ability to absorb moisture. Let's break down why the other options are incorrect:

**Option A: Goat** - Goats provide us with mohair and cashmere, which are also types of wool, but not the primary source of wool.

**Option B: Silk worm** - Silk worms produce silk, a completely different fiber made from protein filaments. Silk is known for its smooth texture and luxurious feel.

**Option D: Blended cotton** - Blended cotton is a fabric made by combining cotton with other fibers like polyester or rayon. It's not a natural source of wool.

In summary, sheep are the primary source of wool, a natural fiber prized for its warmth and comfort.

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## **Question17**

**Sunscreen lotions contains nanoparticles of**

**MHT CET 2021 21th September Morning Shift**

**Options:**

- A. Gold
- B. Pt
- C.  $TiO_2$
- D. Pd

**Answer: C**

### **Solution:**



Sunscreen lotions typically contain nanoparticles of **titanium dioxide (TiO<sub>2</sub>)** (and sometimes zinc oxide) because they are excellent at blocking harmful UV radiation.

✔ Correct Answer: **Option C: TiO<sub>2</sub>**

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## Question18

**Identify tranquiliser from the following?**

**MHT CET 2020 19th October Evening Shift**

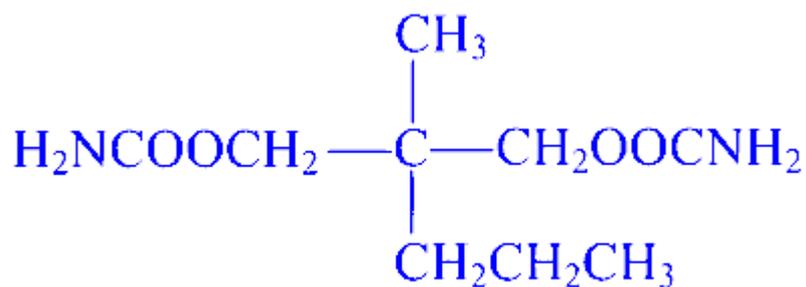
**Options:**

- A. Prontosil
- B. Aspirin
- C. Salvarsan
- D. Meprobamate

**Answer: D**

**Solution:**

Meprobamate is a tranquiliser. This drug is designed for the treatment of anxiety, fear, tension and disturbance of the mind, specifically to reduce states of anxiety and tension. It's structure is shown below:



Meprobamate (C<sub>9</sub>H<sub>18</sub>N<sub>2</sub>O<sub>4</sub>)

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## Question19

**Which of the following is not an example of antiseptic drug?**



## MHT CET 2020 19th October Evening Shift

### Options:

- A. Sulphur dioxide
- B. Cloroxyleneol
- C. Hydrogen peroxide
- D. Bithional

**Answer: A**

### Solution:

Sulphur dioxide is not an example of antiseptic drug. They are antimicrobial substance that are applied to living tissue/skin to reduce the possibility of infection.

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## Question20

**Which of the following is not a character of ideal drug?**

## MHT CET 2020 16th October Evening Shift

### Options:

- A. Should destroy harmful organisms
- B. Is not localised to affected site
- C. Harmless to host
- D. Should not disturb physiological process

**Answer: B**

### Solution:

Ideal drug is localised to affected site. The most important properties of an ideal drug are effectiveness, safety and selectivity. It should be non-toxic, bio-compatible, biodegradable and should have no side effects. The drug should not get accumulated in any of the tissues or cells of the body causing inflammation.

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## Question21

Which of the following molecule does not contain oxygen?

MHT CET 2020 16th October Evening Shift

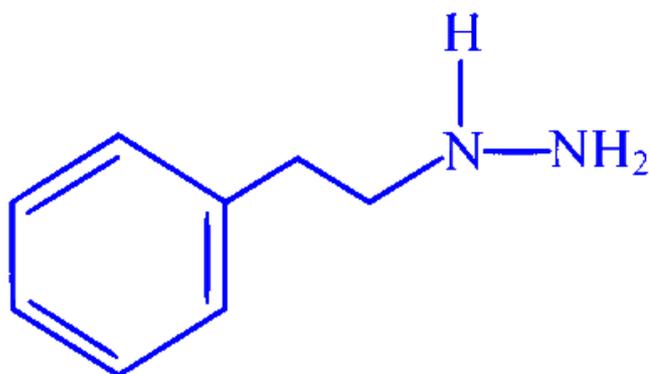
Options:

- A. Veronal
- B. Phenelzine
- C. Serotonin
- D. Iproniazid

Answer: B

Solution:

Phenelzine molecule does not contain oxygen.



Phenelzine

It is a primary amine with molecular formula C<sub>8</sub>H<sub>12</sub>N<sub>2</sub>.

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## Question22

Which among the following is used as refrigerants and for air conditioning?

MHT CET 2020 16th October Morning Shift

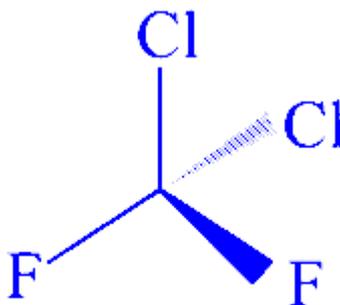
Options:

- A. Trichloromethane
- B. Dichloromethane
- C. Dichloro difluoromethane
- D. Carbon tetrachloride

**Answer: C**

**Solution:**

Dichlorodifluoromethane gas is used as refrigerants and for air conditioning because it takes less power to run a refrigeration compressor if the refrigerant is easily compressible. For a temperature of about  $40^{\circ}\text{C}$  inside the refrigerator the refrigerant needs to boil below  $-10^{\circ}\text{C}$  and above  $-60^{\circ}\text{C}$ .



Dichloro difluoromethane ( $\text{CF}_2\text{Cl}_2$ )

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## Question23

Which of the following is not present in baking powder?



## MHT CET 2020 16th October Morning Shift

### Options:

- A. Potassium hydrogen tartrate
- B. Sodium hydrogen carbonate
- C. Starch
- D. Sodium carbonate

**Answer: D**

### Solution:

Sodium carbonate is not present in baking powder. It is often referred to as soda ash or washing soda. Sodium carbonate has the chemical formula  $\text{Na}_2\text{CO}_3$ . It is made up of sodium and acidic sodium carbonate is diprotic and a strong basic compound. When treated with acid, it converts into sodium bicarbonate.

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## Question24

**Which among the following is antioxidant?**

## MHT CET 2020 16th October Morning Shift

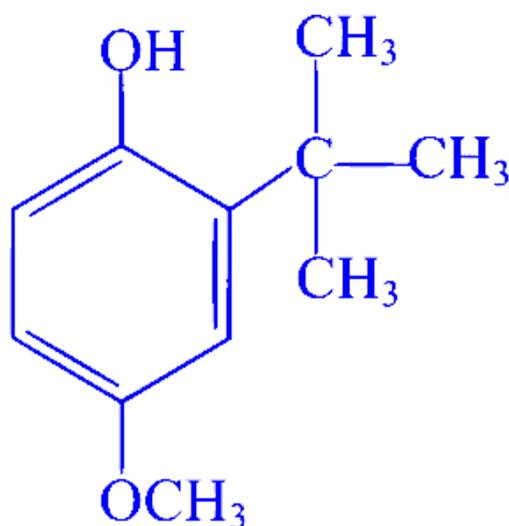
### Options:

- A. Pentaerythrityl stearate
- B. Penicillin
- C. BHA
- D. Aspirin

**Answer: C**

### Solution:

Butylated hydroxyanisole (BHA) is an antioxidant consisting of a mixture of two isomeric organic compounds, 2-tert-butyl-4-hydroxyanisole and 3-tert-butyl-4-hydroxyanisole.



Butylated hydroxyanisole (BHA)

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## Question25

Which element among the following is not present in saccharine?

MHT CET 2019 3rd May Morning Shift

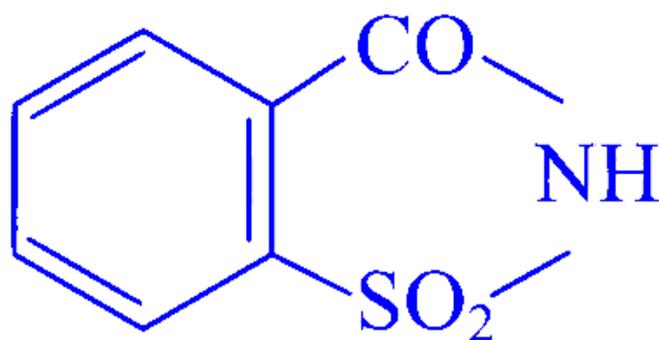
Options:

- A. C
- B. N
- C. P
- D. S

**Answer: C**

**Solution:**

Phosphorus (*P*) is not present in saccharin. It is an artificial sweetening agent that contains C, N and S. The structural formula of saccharin is given below:



## Question26

A flavouring agent found in oil of wintergreen is

**MHT CET 2019 3rd May Morning Shift**

**Options:**

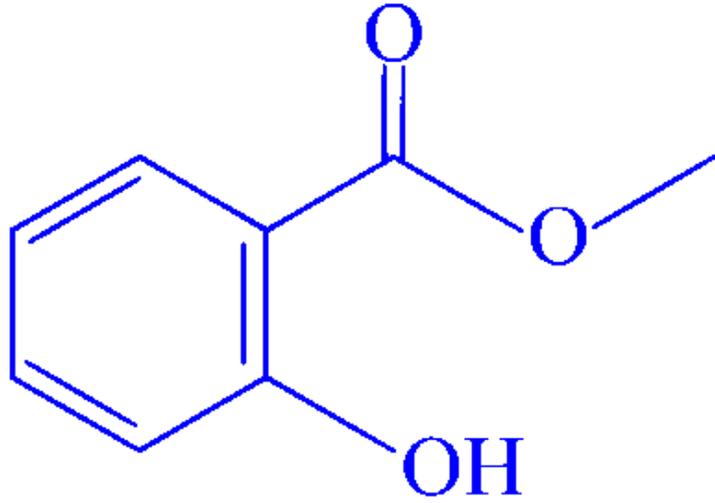
- A. methyl salicylate
- B. acetophenone
- C. vanillin
- D. menthol

**Answer: A**

**Solution:**

A flavouring agent found in oil or winter green is methyl salicylate. It is an organic compound with formula  $C_6H_4(OH)(CO_2CH_3)$ . It is the methyl ester of salicylic acid. It is a colourless, viscous liquid. The structure of methyl salicylate is as follows:





## Question27

Veronal is used as a/an

MHT CET 2019 2nd May Evening Shift

Options:

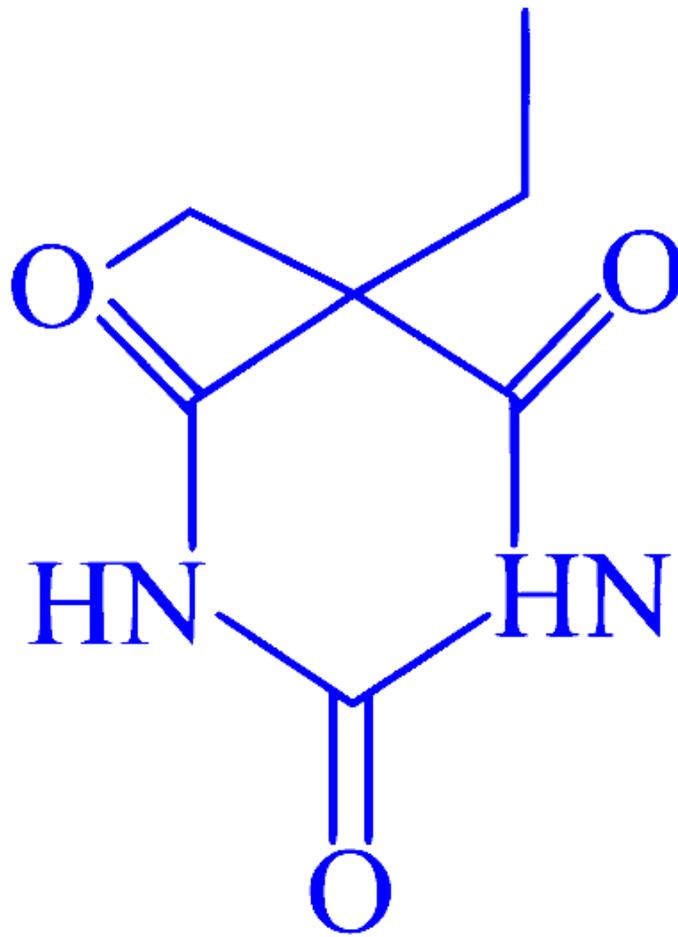
- A. analgesic
- B. antihistamine
- C. antibiotic
- D. tranquilizer

**Answer: D**

**Solution:**

Veronal is the trade name for barbiturate drugs. It is used as tranquilizer, these are the drugs used for the treatment of anxiety, fear tension and mental illness. Its structure is





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## Question28

Which of the following is not a broad spectrum antibiotics ?

MHT CET 2019 2nd May Evening Shift

Options:

- A. Penicillin
- B. Amoxicillin
- C. Chloramphenicol
- D. Ampicillin



**Answer: A**

### **Solution:**

Antibiotics which kill or inhibit a wide range of gram positive and gram negative bacteria are called broad spectrum antibiotics. Among the given options, penicillin is not a broad spectrum antibiotics. It is a narrow spectrum antibiotics, i.e. it is effective mainly against specific families of bacteria.

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## **Question29**

**Which among the following compounds is used to decaffeinate coffee?**

**MHT CET 2019 2nd May Morning Shift**

**Options:**

- A. Iodoform
- B. Carbon tetrachloride
- C. Methylene dichloride
- D. Chloroform

**Answer: C**

### **Solution:**

Methylene dichloride is used as a solvent in the direct method of decaffeination of the coffee.

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## **Question30**

**Which among the following compounds is used as selective weed killer?**

## MHT CET 2019 2nd May Morning Shift

### Options:

- A. Picric acid
- B. 2,4-dichlorophenoxy acetic acid
- C. 2, 4, 6-trichlorophenoxy acetic acid
- D. Salol

**Answer: B**

### Solution:

2,4-dichlorophenoxy acetic acid (usually called as 2, 4-D) is used as selective weed killer. It is a systemic herbicide that selectively kills most of the broad leaf weeds but grasses such as cereals, grasses remains relatively unaffected.

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## Question31

**The bacteriostatic antibiotic from the following is**

## MHT CET 2019 2nd May Morning Shift

### Options:

- A. tetracycline
- B. aminoglycosides
- C. penicillin
- D. ofloxacin

**Answer: A**

### Solution:

Among the following antibiotics, tetracycline is a bacteriostatic antibiotic, it inhibits the growth of bacteria in the body by interfering with bacterial protein production DNA replication or other aspects of bacterial cellular metabolism this group includes: Chloramphenicol, sulfonamides spectinomycin etc.



On the other hand, penicillin, aminoglycosides and ofloxacin are the examples of bactericidal antibiotic.

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## Question32

**Which of the following is not as antiseptic compound?**

**MHT CET 2019 2nd May Morning Shift**

**Options:**

- A. Boric acid
- B. Iodoform
- C. Hydrogen peroxide
- D. Potassium sulphite

**Answer: D**

**Solution:**

Boric acid, iodoform, hydrogen peroxide, alcohol, formaldehyde are some commonly used antiseptics while potassium sulphite is used as a food preservative.

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