ORGANIC CHEMISTRY

Score Advance : Guided Revision Plan - Question Bank- (03)

TOPIC : CHEMISTRY IN EVERYDAY LIFE

PART A : ANALGESIC DRUGS

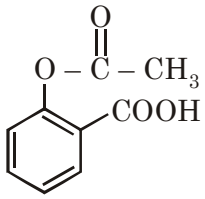
ANALGESIC DRUGS

(a) Non Narcotic Analgesic

(b) Narcotic Analgesic

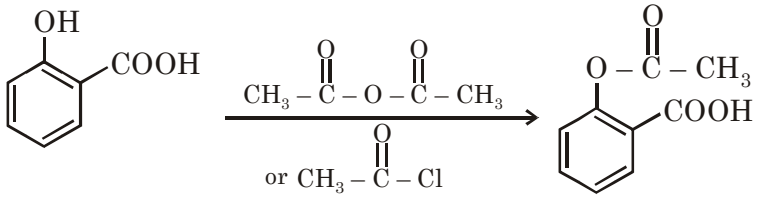
(a) NON NARCOTIC ANALGESIC

1. ASPIRIN (IUPAC Name : 2-Ethanoyloxybenzoic acid)



I. Medical use : Analgesic (Non narcotic / Non addictive) & Antipyretic.

II. Prepration : Aspirin is prepared by acetylation of salicylic acid



Salicylic acid (SNAE) Aspirin

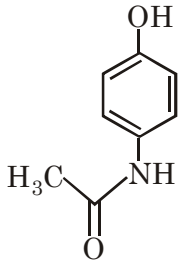
III. Functional group : Acid and ester

IV. Test of Functional group : All +ve tests for carboxylic acids

V. Aromaticity : Aromatic (Homocyclic)

VI. DOU : 6

2. PARACETAMOL (IUPAC Name : N-(4-Hydroxyphenyl)ethanamide



I. Medical use : Analgesic (Non-narcotic / non-addictive) & Antipyretic.

II. Hybridisation state :

$sp^2C \rightarrow 7C$

$sp^3C \rightarrow 1C$

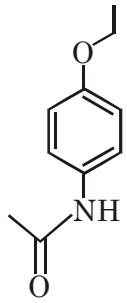
III. Functional group : Phenolic OH, secondary amide

IV. Test of Functional group : +ve test with neutral $FeCl_3$

V. Aromaticity : Aromatic (Homocyclic)

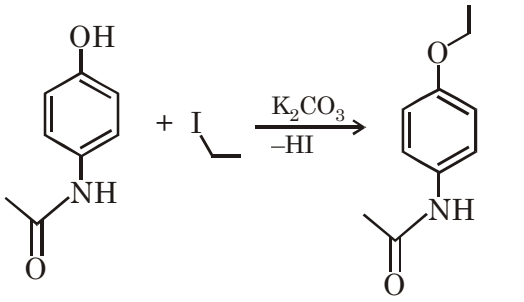
VI. DOU : 5

3. PHENACITIN (IUPAC Name : N-(4-Ethoxyphenyl)ethanamide



I. Medical use : Analgesic (Non-narcotic / non-addictive) & Antipyretic.

II. Prepration :



Paracetamol Phenacitin

III. Hybridisation state

$sp^2C \rightarrow 7C$

$sp^3C \rightarrow 3C$

IV. Functional group / test : Ether and 2° amide / –ve test with neutral $FeCl_3$

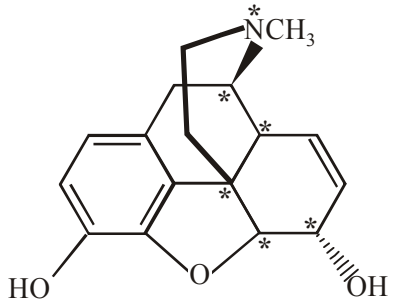
V. Aromaticity : Aromatic (Homocyclic)

VI. DOU : 5

NOTE : Quinine, Chloroquine, Paraquine and Primaquine are used as antimalaria.

(b) NARCOTIC ANALGESIC

1. MORPHINE



I. Medical use : Morphine is used for reliefe a post-operative pain, cardiac pan, child birth and pains of terminal cancer

II. Number of chiral centre : 6

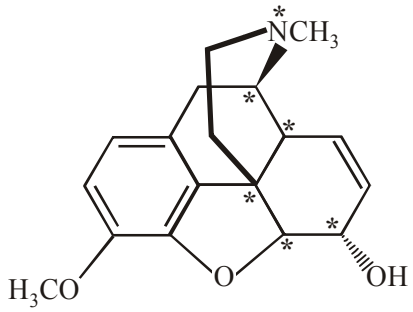
III. Number of chiral carbon : 5

IV. Functional group : Morphin narcotics are also called opiates.

V. Aromaticity : Aromatic (Heterocyclic)

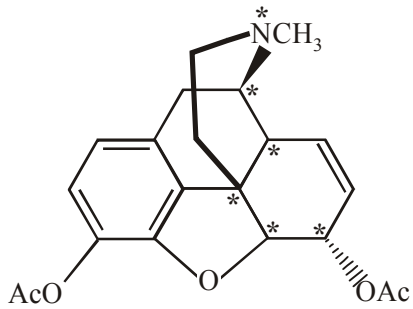
VI. DOU : 9

2. CODEINE



I. DOU : 9

3. HEROIN



I. DOU : 11

	Phenolic OH	Alcohol
Morphine	+	+
Codeine	–	+
Heroin	–	–

Acidic strength order : Morphine > Codeine > Heroin

QUESTION BANK 3 ADDITIONAL QUESTIONS

1. An antipyretic is –
(A) Seldane (B) Paracetamol (C) Luminal (D) Aspartame

2. Paracetamol is –
(A) Both antipyretic and analgesic (B) Analgesic
(C) Antipyretic (D) Antimalarial

3. Aspirin is called –
(A) Pyretic (B) Antiseptic (C) Antibiotic (D) Antipyretic

4. 2-Acetoxybenzoic acid is called –
(A) Antiseptic (B) Aspirin (C) Antibiotic (D) Mordant dye

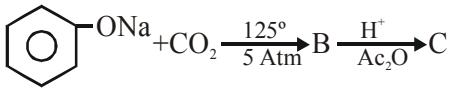
5. Aspirin is an acetylation product of –
(A) p-dihyroxybenzene (B) o-hydroxybenzoic acid
(C) o-dihydroxy benzene (D) m-hydroxybenzoic acid

6. Which of the following are used as analgesics?
(A) Aspirin (B) Heroin (C) Promethazine (D) Serotonin

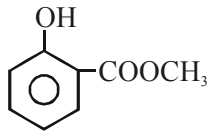
7. Which one of the following types of drugs reduces fever-
(A) Tranquilizer (B) Antibiotic (C) Antipyretic (D) Analgesic

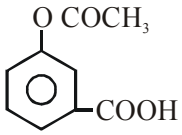
8. Aspirin is known as :-
(A) Methyl salicylic acid (B) Acetyl salicylic acid
(C) Phenyl salicylate (D) Acetyl salicylate

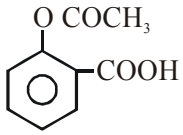
9. Sodium phenoxide when heated with CO_2 under pressure at 125°C yields a product which on acetylation produces C.

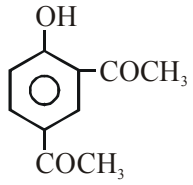


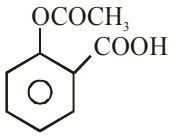
The major product C would be :

(A) 

(B) 

(C) 

(D) 

10. 

is used as :

(A) Insecticide (B) Antacid (C) Antihistamine (D) Analgesic