Unit - XVI

Chemistry in Everyday life

* Chemotherapy → The branch of a chemist which deals with treatment of disease using suitable chemical substances is called chemotherapy.

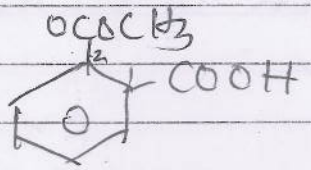
Drug and medicine →
Medicine → is a chemical substance which causes useful effect to prevent and cure various diseases without sideeffects. They do not causes addict

Drug → is a chemical substance which also cure the disease but is habit forming and causes various sideeffects

A substance when taken as prescribed by doctor act as medicine but when the substance is taken in large quan it will act as drug.

Antipyretics → The chemical substance which are used to lower the temp. of a body in high fever is called as antipyretics.
eg → Paracetamol, Aspirin

Aspirin →



2 Acetoxy benzoic acid

Analgesic → The chemical substances which are used to relieve pain without causing disturbance to nervous system is / as analgesic.
eg → Asprin

Antimicrobials → The chemical substances used to cure the diseases caused by microorganism such as bacteria ord is / as antimicrobial.

Antibiotics → These are the chemical substance which are produced by microorganism or chemical synthesis and can inhibit the growth or even kill the microorganism.

Antifertility → These are the chemical substances used to control the pregnancy They are also k / as contraceptives and birth control drugs.

Antacid → These are the chemical substances which neutralize the excess of acid in our body and give relief from acidity and heart burn.
eg. Baking soda in water is very common antacid.

Antiseptic and disinfectant →
Antiseptic → The chemical substance which are used either kill or prevent the growth of microorganism are k / as Antiseptic.

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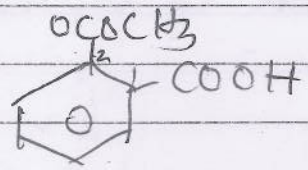

2-Acetoxy benzoic acid

Dettol mix. of Chloroxylenol & terpineol

They can be applied to the living tissue.

Disenfectant → The chemical substance which are used to kill the microorganism are K/as disinfectant.
Disinfectant cannot be used on living tissues.

A same substance can act as a antiseptic and disinfectant.
eg → 0.2% phenol solution is antiseptic
1% phenol solution is disinfectant.

Antihistamine → These are the chemical substances which diminish or abolish the main action of histamine released in the body and hence prevent the allergic rexn.

* Chemicals in food → There are certain chemicals which are added to food to improve its keeping qualities, taste, and appearance - these are K/as food adhesives.
Preservatives → These are the chemical substance which are used to protect the food from microorganism such as bacteria, yeast etc and retain their nutritional value.
eg → Na benzoate

Artificial sweeting agent → The chemi

Substance which gives sweetning effect to the food and it change its flavour are known as artificial sweathing agent.
Eg:- Saccharin, Aspartame, Sucralose, Alitame

Antioxidents → These are the chemicals substances used to prevent the oxidation of fats & in processed food such as potato chips, biscuits etc.
Eg:- Butylated hydroxy toulene.

* Soap and detergent →
chemically soap is Na salt of fatty acid (RCOONa)
soap can be prepared by the process of saponification.
In this process oil or fats (esters of fatty acids) are heated with NaOH

$$\begin{array}{l} CH_2-OCOR \\ CH_2-OCOR \\ CH_2-OCOR \\ \text{Tri fatty acid} \end{array} + NaOH \longrightarrow \begin{array}{l} 3RCOONa \\ \text{Soap} \end{array} + \begin{array}{l} CH_2-OH \\ CH_2-OH \\ CH_2-OH \end{array}$$

Disadvantages of soap →
① It can't be used in hard water
② It can't be used in acidic solution

Advantages of soap →
① It is biodegradable.

Detergent → Chemically detergent are the Na salts of long chain sulphonates

or sulphates : Generally represented by
$R-SO_3-Na$

Advantages of detergent →

① It can be used in hard water.
② It can be used in acidic solution.
③ Its cleaning action is more effective than soap.

Disadvantages of detergent →

① It is non biodegradable and causes environment pollution.

Types of detergent ⇒

① Cationic detergent → ~~contain~~ ~~quaternary~~ ~~ammonium~~ ~~hydrophilic~~ ~~group~~
② Anionic detergent
③ Non-ionic detergent