Babul Mondal :-2nd Sessional Exam;- 2022
Sub:- Pharmacognasy

Q1 i Adulteration of Crud Drug:-

* Adulteration is the debasement of Genuine materials

* Adulteration is done when there is scarcity of crud drugs or cost of the drug is high even though there is no scarcity.

ii) Manufacture of Substitute:-

Adulterants are artificially manufactured so as to resemble the genuine drug morphologically.

ii) Substitution of superficially similar but cheaper natural materials obtained from same & species.

iii) Substitution of inferior commercial varieties.

iv) Substitution with exhausted materials.

Ex- Exhausted Ginger to genuine Ginger.

v) The presence of extraneous matter if in excess forms adulteration.

Ex- Presence of clove stalks and fruits in cloves presence of stems and other parts in Belladonna.

vi) Addition of synthetic principles to fortify inferior varieties.

Ex- Addition of synthetic Citral to oil of lemon
Addion of synthetic balasmic acids to Tolu Balsam.

vii) Powdered Drugs.

In case of powder drugs colon, texture and density of the powder taken into consideration irrespective of its origin.

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13 Alkaloids :-

Alkaloids are nitrogenous compound of low molecular weight. They are mainly produced by plants and animals for defense.

- the chemical structures of alkaloids are extremely variable. Generally an alkaloid contains at least one nitrogen atom in an amine-type structure, are derived from amonia by replacing hydrogen atoms with hydrogen carbon groups called hydrocarbons. This on another nitrogen atom can be active as a base in acid base reaction.

The Alkaloids are often classified on the basis of their chemical structure. For example, those alkaloids that contain a ring system called indole are known is indole alkaloids. On this basis the principal classes of alkaloids are pyrrolidiness, pyridines, tropanes, pyrrolizidines, isoquinolines, indoles, quinolines and the terpenoids and steroids.

14. What are the terpenoids? Classify them :-

- Terpenes are "any of the group of hydrocarbons found in a wide range of plants and animals and though to be derived from isoprene, a hydrocarbons with five carbon atoms and eight hydrogen atoms (C_5H_8). Terpenoids, which are oxygenated derivatives of these hydrocarbons are frequently included in the name.

Terpenoids can be classified into three types

i) Steroid
ii) Carotenoid
iii) Terpenes.

Steroid :-

These compound are the type of terpenoids. This type of terpenoids contained three six-membered carbon rings and the fourth ring contain five carbon atoms. All these ring are fused to form a total of seventeen carbon atoms which are known as steriod molecules. So we can say that steriods are the seventeen carbon atoms terpenoids molecules. Excmple are steroids are estrogen, progestrone, testosterone, and cholestrol.

Carotenoid :-

Carotenoid is a type of terpenoids. These molecules contain a long chain of fatty acid that have a double bond and contain a six number carbon ring at each end. These compound are found pigmented parts of the plants like carotenoids and xanthophyll. These compound provide yellow, red and orange colour to the plant are used in making perfumes.

Terpenes :-

Terpenes molecules are the type of terpenoids. The terpenoids which consist only of isoprenoid units are called terpenes. Small molecules of terpenoids are volatile in nature and give a pleasant odour. Therefore, these are use making perfumes.

II. 6. Resins :-

Resins are any of various solid and semisolid amorphous fusible flammable ~~m~~ ~~natural~~ natural organic substance that are usally transparent or translucent and yellowish to brown are formed especially in plant secretions are soluble in organic solvents but not in the water, are electrical, non conductor and are used chiefly in varnishes.

The chemical structure of resins are :-

i) Resin Acid
ii) Resin Esters
iii) Resenes.

II. 7. Saponins :-

Saponins are glycoside compounds often refferd to as a natural detergent, because of their foamy texture.

It have long been known to have strong bio-logical activity. When studing the effect that saponines have on plants, it has been discovered that saponins are the plant active immune system. They are found many plant, they consist of polyoxylic aglycone that is either a choline steroid or tritetpenoid attched via es or ether bond to a sugar side chain.

II. 8. Volatile Oil :-

Volatile oil are oils that are characterzed by their volatality and failure to saponify. They evaporate when when they are exposed to the air thus are capable to distilisation. They are derivee from plant tissues. They may be produced naturally by extraction, particularly by distilation often by using steam. They may also be made synthetically,

III. 11. Evaluation of Drug :-

Evaluation of drug ensures identity of a drug and ~~ed~~ determines the quality and purity of drugs. The main reasons behind the need for evalution and drugs are bio-chemical variation in the drug.

III. 12. Foreign Organic Matter :-

Organic materials are defined in the modern chemistry as carbon-based compounds, originally derived from living organism by now including lab-synthesized versions as well.

III. 13. Kellen killion Test :-

Keller's reagent is the find different kind of Alkaloids via reaction, which produced the product with the colon.

III. 14. Vein Islet :-

Vein islet is the minute area of photosynthetic tissues encincled by the ultimate devision of the conducting strands.