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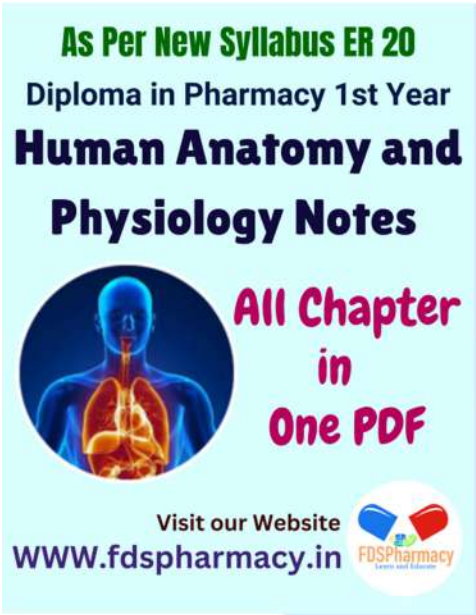
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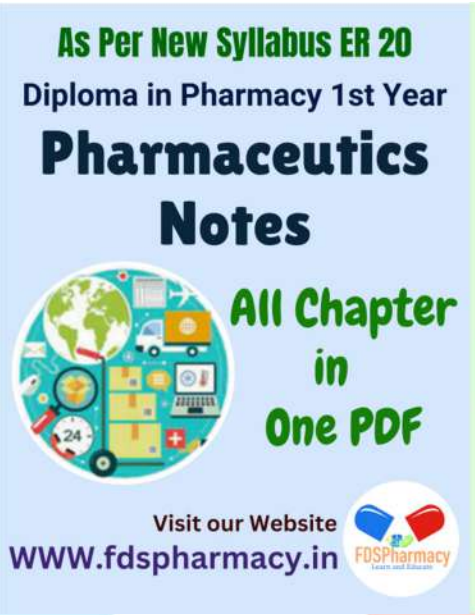
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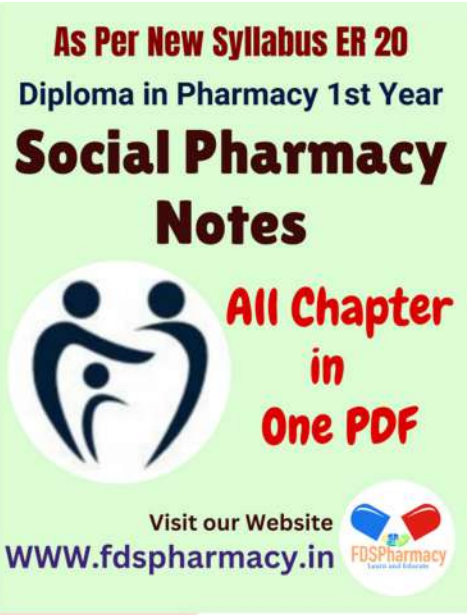
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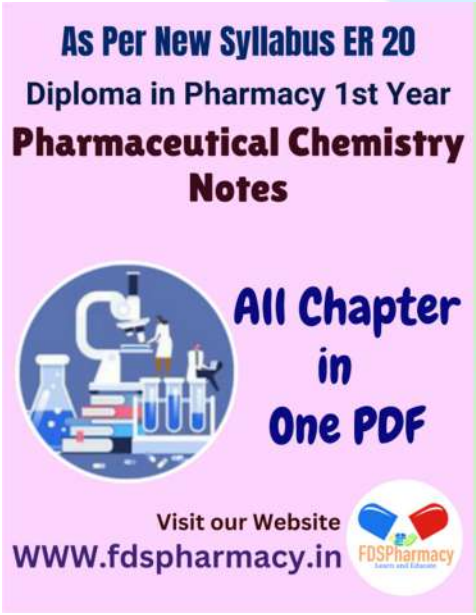
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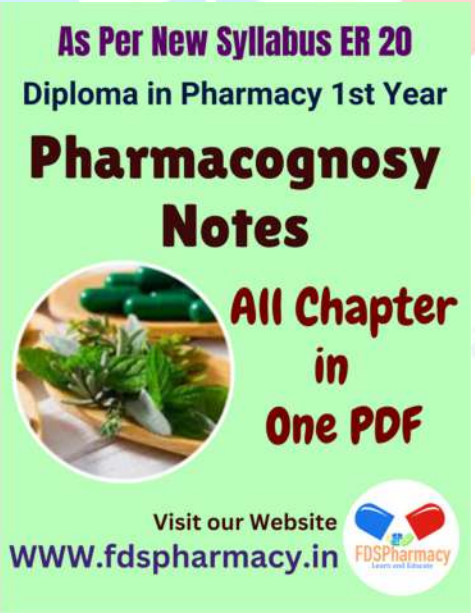
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Link in Description

Diploma in Pharmacy 1st Year
Pharmacognosy
Chapter 3 : Quality Control of Crude Drugs

Topics	Page No
Adulteration of Drugs • **Morphological or Organoleptic evaluation** • **Microscopic evaluation** • **Physical evaluation** • **Chemical evaluation** • **Biological evaluation**	3

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Chapter 3

Quality Control of Crude Drugs

Adulteration of Drugs :

The term Adulteration is defined as substituting original crude drugs partially

or

wholly with other similar-looking substance

Types od Adulteration : Adultration may be of two types

Unintentional Adulteration : It occurs without any bad intention of manufacture or suppliers

Unintentional Adulteration may be due to various reasons

- Confusion in vernacular names
- Lack of Knowledge about authentic source
- Similarity in morphology
- Lack of authentic plant
- Similarlity in colour
- Careless collection
- Unknow reasons

Intentional Adulteration : Intentional adulteration may be due to the following reasons:

- ♠ Adulteration using manufactured substance
- ♠ Substitution using inferior commercial varities
- ♠ Substitution using exhausted drugs
- ♠ Adulteration using the vegetative part of the same plant
- ♠ Addition of toxic materials
- ♠ Adulteration of powders
- ♠ Addition of synthetic principles

Evaluation of drugs Adulteration :

Evaluation of drug means confirmation of its identify and determination of its quality and purity and detection of nature of adulteration The evaluation of a crude drug is neccassary because of following reasons :

Role in identification of botanical source

- ❖ Variation in botanicals
- ❖ Quality control of crude material
- ❖ Identification of common Adulterants
- ❖ Safety Assessment documentation for toxicological activity
- ❖ Standardization of crude drugs

The method for evaluation of crude drugs are :

- Morphological or Organoleptic evaluation
- Microscopic evaluation
- Physical evaluation
- Chemical evaluation
- Biological evaluation

1. Physical Evaluation :-

→ Physical standards are to be determined for drugs wherever possible.

They may help in evaluation, specifically with reference to specific gravity, density, optical rotation refractive index, melting point, viscosity and solubility in different solvents.

2. Chemical Evaluation :-

→ Chemical comprises of different chemical tests and chemical assays.

The isolation, purification and identification of active constituents are chemical methods of evaluation Quantitative chemical tests such as Acid value, Saponification value etc.

It also help in proper identification of various of the crude drugs.

3. Biological Evaluation:-

→ The estimation of potency of crude drugs is done by means of the its effect on the living organism like bacterial, fungal growth or animal tissue or entities animal, it is called as bioassay

Bioassay is the measure of sample being tested capable of producing the biological effects as that of the standard preparation.

4. Morphological Evaluation (Organoleptic):-

→ It is refers to evaluation of drugs by colour, odor, teste, size, shape and special features like touch, texture and sound etc.

The study of form of crude drugs is morphology while description of the form is morphography. The adulteration of seeds of strychnosnux-vomica with the seed of strychnosnux-blanda or Strychnospotatorum, caraway with Indian dill, Alexandrian Senna with dog Senna is identified by morphological techniques.

5. Microscopic Evaluation:-

→ The microscopic evaluation also covers study of constituents by application of chemical tests to small quantities of drugs in powdered form or to histological sections of the drug (micro-chemistry)

This method allows more detailed examination of a drug and its can be used to identify organised drugs by their know histological characters.

Histological studies are made from very thin sections of the drugs.

Microscope by virtue of its property to magnify permits the minute structure under study to be enlarged and can be used to confirm the structural details of the drugs from plants origin.