Chapter – 2 Classifications of Crude Drugs

2.1	Introduction

The crude drugs obtain from the different sources are used in treatment of wide spectrum of diseases. For their study it is necessary to arrange them in scientific and systematic manner. For pharmacognostic study, crude drugs can be arranged according to one of the following classes: -

2.2	Alphabetical classification

Alphabetical classification: The crude drugs are arranged according to the alphabetical order/form of their Latin and English names. Some of the Pharmacopoeias and reference books which classify crude drugs according to this system are as follows.

 a) British Pharmacopoeia (English),

 b) British Pharmaceutical Codex (English),

 c) United States Pharmacopoeia and National Formulary,

 d) Indian Pharmacopoeia.

 Disadvantages:

1) This type of classification does not help in distinguishing the drugs of plant, animal and mineral sources.

2) They do not indicate whether the drugs are organised or unorganized. Examples: Acacia, benzoin, cinchona, dill, ergot and fennel.

2.3	Taxonomical classification

 Taxonomical classification: It is a type of biological classification and restricted mainly to crude drugs, which are found from plant and animals. It indicates the phylum, class, sub-class, order, family, genus & varieties of crude drugs.

 Disadvantage:

1) It is difficult to recognize the organized and unorganized nature of crude drugs in their morphological studies. Examples:

Phylum   :   Spermatophyta.

Division   :   Angiospermae.

Class   :   Dicotyledons.

Order   :   Rosales.

Family   :   Leguminosae.

Genus   :   Glycyrrhiza.

Species   :   Glycyrrhiza glabra.

2.4	Morphological classification

Morphological classification: The crude drugs are arranged (Grouped) according to the part of the plant or animal represented into organised (Cellular) drugs and unorganised (Acellular) drugs.

a. Organised (Cellular): Drugs are the direct parts of the plant and are divided into leaves, barks wood, root, rhizome, seed, fruit, flower, stem, hair and fibers.

b. Unorganised (Acellular): Drugs are the products of plant, animal and mineral source and they are divided into dried latex, dried juice, dried extracts, gums, resins, fixed oils and fats, waxes, volatile oil, animal products, minerals (Solids, liquids, semi solids etc).

Advantage:

1) This method is more convenient for practical study especially when the chemical nature of the drug is not clearly known.

Examples:

Parts of Plant	Drug
Woods	Quassia, Sandalwood, Red sanders
Barks	Arjuna, Cinnamon, Cinchona, Kurchi,
Flowers	Clove, Saffron, Pyrethrum
Fruits	Lemon, Fennel, Coriander, Dill
Leaves	Datura, Senna, Vasaka, Digitalis,
Seeds	Nux vomica, Linseed, Isapgol
Roots	Rauwolfia, Liquorice, Ipecac
Rhizomes	Ginger, Podophyllum, Turmeric
Stems	Ephedra
Hair & Fibres	Cotton, Hemp, Jute

2.5	Pharmacological (Therapeutic) classification

Pharmacological (Therapeutic) classification: This type of classification involves the grouping of crude drug according to their pharmacological action of their chief active constituent or their therapeutic use

Examples:

Carminatives   : Dill, Clove, Fennel, Coriander

Purgatives   : Senna, rhubarb, cascara, castor-oil.

Cardiotonics   : Digitalis, arjuna.

Emetics   : Ipecac

Anti-amoebic   : Kurchi, Ipecac

Bulk Laxatives   : Agar, Isapgol

Expectorant   : Liquorice, Vasaka, Ipecac

2.6	Chemical classification

Chemical classification: The crude drugs are divided into different groups according to chemical nature of their most important constituent.

Advantage:

1) It is preferred method of study because pharmacological activity depends on the nature of the chemical constituents. So, crude drug containing alkaloids are grouped together.

Examples:

Glycosides   :   Digitalis, senna, aloe.

Alkaloids   :   Nux - Vomica, cinchona, datura.

Volatile oils :   Clove, eucalyptus.

Lipids   :   Castor oil, beeswax, cod liver oil.

2.7	Chemotaxonomical classification

Chemotaxonomical classification: It has been found that certain chemical constituents are characteristic of certain taxonomical classes of plant or groupings.

Example:

Volatile oils are found in plants belonging to the family Umbelliferae and Rutaceae.