

SCOPE OF PHARMACOLOGY

- **PHARMACOLOGY:** is defined as study of interaction of drug with living system that includes mechanism of action, physiological or biochemical effects, therapeutic uses and adverse effect of drug.

BRANCHES OF PHARMACOLOGY:

• **1) PHARMACOKINETICS:** It means study of what happens to drug in the body is known as pharmacokinetics.

• **2) PHARMACODYNAMICS:** It means study of what happens to body due to drug is known as pharmacodynamics.

• **3) THERAPEUTIC INDEX:** To express the potency & toxicity of drug to establish safety of drug.

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$$\text{THERAPEUTIC INDEX} = \frac{\text{LD}_{50}}{\text{ED}_{50}}$$

• **4) THERAPEUTICS:** It means any measure which is taken in the treatment of disease.

• **5) PHARMACOTHERAPEUTICS:** It means study of drug in relation to their application in the treatment of disease.

6) **TOXICOLOGY**: It is study of action of overdose of drug which may endanger.

7) **CHEMOTHERAPY**: The use of chemical agent in the treatment of infectious disease is called as chemotherapy.

SOURCES OF DRUG:

- 1) **PLANT**: e.g. MORPHINE, DIGOXIN.
- 2) **ANIMAL**: e.g. INSULIN, HEPARIN.
- 3) **MINERAL**: e.g. LIQUID PARAFFIN, KAOLIN.
- 4) **SYNTHETIC**: e.g. ASPIRINE, SULPHONAMIDES.
- 5) **MICRO-ORGANISMS**: e.g. PENICILLIN, RIFAMPICIN.

CLASSIFICATION OF DRUG :

On the basis drug can be divided into three main group-

- a) **CHEMOTHERAPEUTIC AGENT**: The agents are used to cure infectious disease & cancer.
- b) **PHARMACODYNAMIC AGENT**: They are used as a treatment regimes for non-infectious disease.
- c) **MISCELLANEOUS AGENTS**: Narcotics, analgesic, local anesthetics.