

HUMAN ANATOMY AND PHYSIOLOGY 1(BP101T)

UNIT: 1 CELLULAR LEVEL OF ORGANIZATION

CLASS: 5

TOPIC: GENERAL PRINCIPLES OF CELL COMMUNICATION, INTRACELLULAR SIGNALING PATHWAY ACTIVATION BY EXTRACELLULAR SIGNAL MOLECULE

Cell communication is also known as cell signalling. It is the communication between the cells. In this, the cell transmits (send), receive and process the signal from one cell to another cell or with itself. Cell communication is important for growth and development of cells. It is also important to maintain homeostasis. They communicate with each to help in transport substance, generate electrical potential across cell membrane and respond to change occurring in internal and external environment.

Communication between cells requires: Ligand, Receptors.

INTERNAL SIGNALLING MOLECULES: Which are already present in the body. Hormones, Neurotransmitter, Local Hormones, Ions. All are internal signaling molecules which help in regulation of body function.

EXTRA SIGNALLING MOLECULES: We take come from external environment. Any drugs or medicine.

Molecule → Receptors → Cellular response.

Extracellular signaling molecules are critical regulate of physiological and development in organisms. There are many different types of signalling molecules which are produced inside of our body, such as peptides, small lipophilic molecule, small hydrophilic molecules and gases.