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CLASS: MLT 2ND SEC B

SUBJECT : PHARMACOLOGY

QUESTION NO 1 :

mechanism of antibiotics according to different targets ?

Inhibition of Cell Wall Synthesis (most common mechanism)

Inhibition of Protein Synthesis (Translation) (second largest class)

Alteration of Cell Membranes.

Inhibition of Nucleic Acid Synthesis.

Antimetabolite Activity.

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Inhibition of Cell Wall Synthesis :

Penicillins and cephalosporins are the major antibiotics that inhibit bacterial cell wall synthesis. ... Vancomycin, fosfomycin, and bacitracin also inhibit cell wall synthesis but are not nearly as important as the beta-lactam drugs.

Inhibition of Protein Synthesis :

A protein synthesis inhibitor is a substance that stops or slows the growth or proliferation of cells by disrupting the processes that lead directly to the generation of new proteins.

Alteration of Cell Membranes:

Alteration of Membrane Permeability. As a phospholipid bilayer, the lipid portion of the outer membrane is impermeable to charged molecules. However, channels called porins are present in the outer membrane that allow for passive transport, across the outer membrane, of many ions, sugars, and amino acids.

Inhibition of nucleic acid synthesis :

Rifamycin :

inhibits RNA synthesis.

Antituberculosis.

QUINOLONES AND FLUOROQUINOLONES :

NA LIDIXIC Acid : urinary infections

CIPROFLOXACIN.

Inhibits DNA Gyrase .

Urinary tract infections

ANTIMETABOLITE ACTIVITY :

Antimetabolites are drugs that interfere with one or more enzymes or their reactions that are necessary for DNA synthesis. They affect DNA synthesis by acting as a substitute to the actual metabolites that would be used in the normal metabolism (for example antifolates interfere with the use of folic acid)