

Day: MTWTFSS

(1)

Date: \_\_\_/\_\_\_/\_\_\_

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Subject pharmacology.

Department BS. Radiology.

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QUESTION NO 2  
ANSWER NO 2

Drug Interactions:

Drug interactions is defined as the pharmacological activity of one drug is altered by the concomitant use of another drug or by the presence of some other substance.

OR

When the effects of one drug is changed by the presence of other drug, herb, food, drinks

Types:

- \* Drug-drug interactions.
- \* Drug food interactions.
- \* chemical-drug interactions
- \* Drug laboratory test interactions.



\* Drug disease interactions.

## Mechanism of drug interactions.

On the basis of mechanism of drug interactions.

They are ~~two~~<sup>three</sup> types.

- ① Pharmacodynamics.
- ② Pharmacokinetics.
- ③ Pharmaceutical interactions.

## Drug Pharmacokinetics:

Pharmakon (drug) and kinetics (moving putting in motion).

### Definitions:

Pharmacokinetics involve the effect of a drug on another drug kinetic that includes absorption, distribution, metabolism and excretion.

## Pharmacokinetic Interactions.

### ① Altered GIT Absorption.

- Altered pH
- Altered bacterial flora.
- formation of drug chelates
- drug induced mucosal damage
- Altered GIT motility.

#### Altered pH.

The non ionized form of a drug is more lipid soluble and more readily absorbed from GIT than the ionized form does. example: antacids. etc

#### Altered intestinal bacteria flora.

40% or more of the administered digoxin does not get metabolised by the intestinal flora.

#### Altered motility.

metoclopramide increase absorption of cyclosporine due to the increase of



stomach emptying time increase  
the toxicity of cyclosporine.

QUESTION NO 3

ANSWER NO 3

Anesthesia:

Anesthesia (greek word "without sensation") is state of controlled temporary loss of sensation or awareness that is induced for medical purposes. There are two types of anesthesia

(1) Local Anesthesia.

(2) General Anesthesia.

Local Anesthesia:

which cause a reversible loss of sensation for a limited region of the body without necessarily affecting consciousness.

## General Anesthesia:

which result in a reversible loss of consciousness.

It is a state characterized by unconsciousness, analgesia, muscle relaxation and loss of reflexes.

## stages of anesthesia:

### Analgesia:

In stage 1.

The patient has decreased awareness of pain. Sometimes with amnesia, consciousness may be impaired but is not lost.

### Disinhibition 2:

The patient appears to be delirious and excited. Amnesia occurs, reflexes are enhanced & respiration is typically irregular.



### stage 3 surgical Anesthesia.

The patient is ~~unconscious~~ unconscious and has no pain. reflexes; respiration is very regular & blood pressure is maintained.

### stage 4 medullary depression.

The patient develops severe respiratory and cardiovascular depression that requires ~~machanism~~ mechanical and pharmacologic support.

ANSWER NO 9

Heart failure means?

Heart failure is a chronic progressive condition in which the heart muscle is unable to pump enough blood to meet the body's needs for blood and oxygen. Basically the heart can't keep up with its workload.

Symptoms:

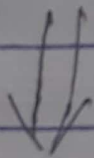
- ① peripheral edema.
- ② Decreased tolerance for physical activity.



# Pathophysiology of heart failure.

## cardiac lesion:

- ① ischemia, hypertension  
 infarction, valve disease  
 myopathy, other



Decreased cardiac performance.  
 impaired pumping ability.

myocardial cell change  
 structural change

neurohumoral compensation  
 sympathetic activity.  
 renin angiotensin.

increased cardiac workload.  
 due to

- vascular resistance
- fluid volume.

ANSWER NO 4 B PART

Most people with heart failure are treated with medication.

Some of the main medications for heart failure includes:

→ Cardiac glycosides.

→ Beta Agonists.

→ PDE inhibitors.

→ Nitroprusside

→ Loop diuretics

→ Beta blocker.

Now we shortly defined one by one.

(1) Cardiac glycoside

increases  $Ca^{+}$  increases cardiac contractivity.

Beta agonists:

Dopamine and dobutamine exert a fairly specific positive inotropic effect.

PDE inhibitors

cause a cAMP mediated increased.



Other drugs  
ACE Inhibitors.  
diuretics  
wabrachine  
digoxin etc.

ANSWER NO 5  
PART A

Broad spectrum.

Broad spectrum  
antibiotics act against  
multiple strains and  
forms of different bacteria  
which share common structures  
and metabolic functions  
that can be attacked  
and effect to kill them.

They effects both gram+ve  
and gram-ve

Example.

tetracycline.

Narrow spectrum antibiotic

They effects against only specific type of bacteria such as isoniazid.

Example:

Bacillus bacteria  
Tuberculosis  
macrolides and  
penicillins G:

~~ANSWER NO 5~~

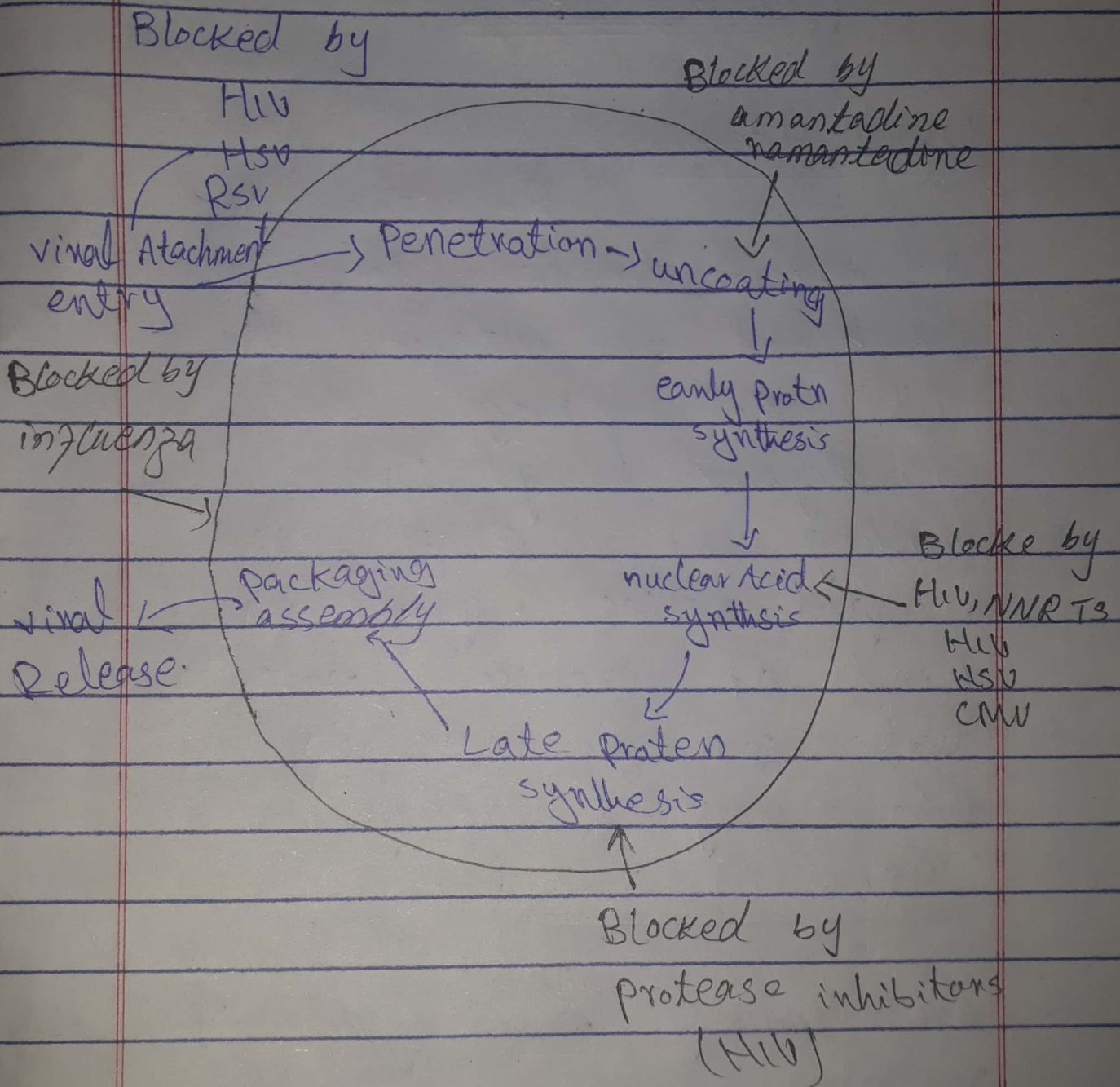
~~PART~~

Classified Antibiotic drugs?

- penicillins
- Tetracyclines
- cephalosporins.
- quinolones.
- Lincomycins.
- macrolides.
- sulfonamides.
- Glycopeptides.



# PART B (5)



QUESTION NO 1ANSWER NO 1Drug Receptors.

Receptor is a macromolecule in the membrane or interior the cell that mainly bind a ligand (drug). The binding of drug to receptor relies upon on kinds of chemical bonds that can be set up b/w drug & receptor.

Types of receptors:

There are mainly ~~two~~ <sup>different</sup> types of receptor

internal receptor.

cell surface receptor.

ion channel Receptor.

G protein linked receptor

enzymed linked receptor



Mechanism

Receptor:

It is defined as a macromolecule or binding site located on the surface or inside the effector cell that serves to recognize the signal molecule or drug and initiate the response to it, but itself has no other function.

The largest number of drugs do not bind directly to the effectors viz. enzymes, channels, transporters, structural proteins, etc. but act through specific regulatory macromolecules which control the effectors.

END.