



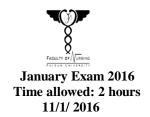
PHARMACOLOGY Model Answer

Question (1):

- a. What is the significance of hepatic microsomal enzyme induction and inhibition with examples (1 example for induction & 1 for inhibition)?
- Affect metabolism and action of some drugs
 - a. Inducer: Androgen.
 - **b.** Inhibitor: Estrogen.
- Tolerence (+HME $\rightarrow \downarrow$ some drugs actions)
- Toxicity (Acetaminophen with +HME → ↑NABQI "Hepatotoxic")
- Jaundice ttt in newborn (Barbiturate → +HME → ↑bilirubin metabolism)
- b. What is the effect of changing urinary PH on drug execreation?
 - Acidification of urine (By ASA) $\rightarrow \uparrow$ execreation of <u>basic</u> drugs.
 - <u>Alkalanization</u> of urine (By NaHCO3) → execreation of <u>Acidic</u> drugs.

Question (2):

- a. How to treat a patient with organo-phosphorus poisoning?
 - Gastric lavage (+charcoal)
 - Atropine 2mg every 5-10m till pupil dilates or tachycardia
 - Skin wash
 - Mechanical ventilation (severe cases)
 - Cholinesterase reactivators: pralidoxime (in 1st 24 h)
- **b.** Discuss the mechanism of action of beta blockers in treatment of hypertension?
 - ↓CO (-ve ionotropic & chronotropic action)
 - ↓ peripheral resistance (after 2 weeks)
 - $\bullet \;$ Some BB has additional α blocking effect
 - \ renin release.
 - \downarrow NA release by blocking of presynaptic β 1.
 - Reset baroreceptor sensitivity to the lower blood pressure





Question (3):

c. What are the uses of ACEI (Angiotensin converting enzyme inhibitor)?

- Hypertension
- Heart failure
- Myocardial infarction
- Diabetic nephropathy

d. What are the side effects of Digitalis (clinical picture of Digitalis toxicity)?

- Early: Bradycardia / Vomiting.
- Late:
- 1. Bradyarrhythmia: Bradycardia &heart block
- 2. Tachyarrhythmia: Atrial tachycardia ,junctional arrhythmia ,ventricular (bigeminy &trigeminy & tachycardia & fibrillation).
- 3. Anorexia, nausea & vomiting.
- 4. Neurological: headache, parasthesia, disorientation, confusion, dellerium, hallucination.
- 5. Blurring of vision, abnormal colored vision

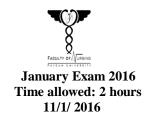
c. Question (4):

a. What are the uses of cortisone?

- Adrenocortical insufficiency.
- Congenital adrenal hyperplesia.
- Cushing syndrome: during & after adrenalectomy.
- Adrenal suppression (diagnostic)
- Lung maturation in fetus (↑ pulmonary surfactant).
- Hypercalcemia.
- Anti-inflammatory & immunosupression

b. Enumerate the side effects of Metformin?

- GIT irritation.
- Lactic acidosis.
- Megaloblastic anemia due to \absorption of vitamin B12.





Question (5):

- c. What are the uses of morphine?
 - Analgesia: (For all pain except billiary pain). e.g.
 - Acute pulmonary edema:
 - Pre-anesthetic medication.
 - Anesthesia: IV, epidural, intrathecal

d. Enumerate the side effects of NSAID (Non-steroidal anti-inflammatory drugs)?

- Acute toxicity (hyperpyrexia and dehydration, nausea and vomiting, acid/base disturbance, Hemorrhagic phenomenon, convulsions).
- Salisalism (chronic toxicity)
- Hypoprothrombinemia → bleeding
- GIT → Nausea, vomiting, peptic ulcer
- Gout.
- Allergy \rightarrow rash, bronchospasm (BA)
- Respiration → may precipitate BA
- Renal impairment (nephrotoxic \rightarrow RF)
- Rey syndrome (hepatic failure in children)

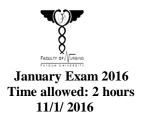
d. Question (6):

- a. Classify antibiotic according to their mechanism of action? Give one example for each mechanism.
 - Cell wall inhibitors: Penicillin, Cephalosporin.
 - Cell membrane inhibitors: Polymyxins.
 - DNA/RNA inhibitors: Quinolones, Rifampicin.
 - Protein synthesis inhibitors:
 - o 50S: Chloramphenicol, Erythromycin
 - o 30S: Aminoglycoside, Tetracyclin
 - Metabolic products: Suphonamide, Trimethoprim.

b. What are the side effects of Gentamycin (Aminoglycoside)?

- Ototoxicity

- Neuromuscular blockade
- Nephrotoxicity
- Hypersensitivity reactions





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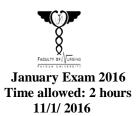




Clinical Exam – Model Answer

For each statement mark ($\sqrt{}$) or (X):

1	and slow heart rate	X
2	Methyl-xanthine can be used in bronchial asthma but not cardiac asthma	X
3	Insulin can be used in treatment of type 2 diabetes mellitus with renal failure	√
4	Steroids are contraindicated in TB	$\sqrt{}$
5	Digoxin can be given in heart failure	$\sqrt{}$
6	Beta blockers can be used in acute attack of bronchial asthma	X
7	Adrenaline is contraindicated in anaphylactic shock	X
8	Captopril acts by inhibition of angiotensin converting enzyme	$\sqrt{}$
9	Paracetamol is an analgesic and antipyretic drug	$\sqrt{}$
10	Sulphonylurea is not an effective treatment of type 1 diabetes mellitus	$\sqrt{}$
11	Quinolones antibiotics is contraindicated in pregnancy	$\sqrt{}$
12	Chronic steroid therapy should not stopped suddenly	$\sqrt{}$
13	The intravenous route of administration is suitable for drugs with extensive 1st pass effect	√
14	Morphine is contraindicated in cancer pain	X
15	Patients with history of allergy to penicillin can be given cephalosporin safely	X
16	Beta blockers can mask manifestation of hypoglycemia	$\sqrt{}$
17	Nifidipine is used in treatment of hypertension	$\sqrt{}$
18	α-methyl-dopa is an anti-hypertensive drug that can be given safely during pregnancy	√
19	Insulin therapy cause bradycardia as a side effect	X





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20	Aspirin is not an anti-pyretic drug	X	
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