

Examination for MSc.Degree in:Pharmacology

Course Title: Biochemistry

Date 21-2-2022



**Tanta University**  
**Faculty of Medicine**

**Department of Medical Biochemistry**

**1. Show with formulae the following reactions:**

- a- Activation of amino acids.
- b- Generation of ROS
- c- Vitamin C as coenzyme

**2-Give reasons of the following:**

- a- Pellagra disease.
- b- Manifestation associated with B1 deficiency.
- c- xeroderma pigmentosa.
- d-Tetany.

**3-Illustrate with diagram:**

- a- Base excision repair mechanism.
- b- Vitamin K cycle.
- c- Mechanism of Type 2 hormones.
- d- Mechanism of Na- K ATPase

**4- Give an account on the following:**

- a- Factors affecting iron level
- b- Posttranscriptional modification.
- c- Initiation of transcription.
- d- Enzymatic antioxidants.

**5- Compare between the following:**

- a- Vitamin B9 and Vitamin B12
- b- DNA polymerases.

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### 4-Mcqs (23 marks):

- 1- Which of the following drugs is an inhibitor of cytochrome p450 enzyme
  - a-Ketoconazole.
  - b-Rifampicin.
  - c-Phenytoin.
  - d-Phenobarbitone
  
- 2- Which of the following drugs should be removed by dialysis
  - a-Digoxin.
  - b-Salicylates.
  - c-Benzodiazepines.
  - d-Organophosphates
  
- 3- A patient presents to emergency with pinpoint pupil, salivation, lacrimation, tremors and red tears. Plasma cholinesterase level was 30% of normal. Most probable Diagnosis is:
  - a- Organophospahte poisoning
  - b- Dhatura poisoning
  - c- Opioid poisoning
  - d-Pontine hemorrhage.
  
- 4- Which of the following drug acts as combined alpha and beta adrenergic receptor agonist?
  - a- Dobutamine
  - b- Phenylephrine
  - c- Fenoldopam
  - d - Noradrenalin.

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5-Which of the following drugs will decrease heart rate in a patient with a normal heart rate but will have little effect on heart rate in a cardiac transplant recipient?

- a- Adrenaline
- b- Noradrenaline
- c- Isoproterenol
- d- Phenylephrin.

6-Mechanism of action of propylthiouracil in hyperthyroidism is:

- a- Inhibition of organification of iodine
- b- Inhibition of oxidation of iodine .
- c- Inhibition of coupling of two DIT residues
- d-All of the above

7- Which of the following statements regarding acarbose is false?

- a- It acts by inhibiting the enzyme alpha-glucosidase
- b- It reduces post-prandial hyperglycemia
- c- It decreases the progression of impaired glucose tolerance to overt diabetes mellitus
- d-It can cause hypoglycemia.

8- In which of the following disorders, administration of barbiturates is contraindicated?

- a- Anxiety disorders
- b- Acute intermittent porphyria
- c- Kernicterus
- d-Refractory status epilepticus

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9. Which of the following agents do not act via GABA A-cl – channel complex receptors?

- a- Zopiclone
- b- Benzodiazepines
- c- Thiopentone
- d- Promethazine

10-False about mechanism of action of anticonvulsants is:

- (a) Ethosuximide – K<sup>+</sup> channel opener
- (b) Phenytoin – Na<sup>+</sup> channel blocker
- (c) Diazepam – Facilitates GABA action
- (d) Gabapentin - Increase GABA release.

11- A patient of Parkinsonism is managed with levodopa.

If Vitamin B complex is administered concurrently to the patient:

- a- The action of levodopa in brain will be potentiated
- b- Decarboxylation of l-dopa in brain will be decreased
- c- Side effects will be ameliorated
- d- Decreased efficacy will result.

12- The effect of morphine which has least tolerance is?

- a- Analgesis
- b- Respiratory depression
- c- Constipation
- d-Bradycardia .

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**13- Apixaban is a new drug that acts by:**

- a- Inhibiting TNF alpha
- b- Inhibiting coagulation factor Xa
- c- Inhibiting platelet aggregation
- d- Activating plasminogen

**14- Mechanism of actions of montelukast is:**

- a- Competitive antagonist of leukotriene receptors
- b- Inhibits alpha receptor
- c- Beta receptor agonist
- d- Non-competitive inhibitor of leukotriene synthesis

**15- The drugs employed for anti-H. pylori therapy include all of the following EXCEPT:**

- a- Ciprofloxacin
- b- Clarithromycin
- c- Tinidazole
- d- Amoxicillin

**16- . Which antiemetic drug selectively blocks levodopa induced vomiting without blocking its anti-Parkinsonian action?**

- a- Metoclopramide
- b- Cisapride
- c- Domperidone
- d- Ondansetron.

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17- Multiple drug resistance is transferred through:

- a- Transduction
- b- Transformation
- c- Conjugation
- d- Mutation

18- All of the following drugs can cause cholestatic jaundice except:

- a- Ethambutol
- b- Chlorpromazine
- c- Erythromycin estolate
- d- Estrogen.

19- Aplastic anemia is the adverse effect of:

- a- Chloramphenicol
- b- Ciprofloxacin
- c- Penicillin
- d- Gentamicin.

20- Which of the following is not used as a sedative, but causes sedation as a side effect:

- a- Digitalis, anti-arrhythmics
- b- Antihistaminics, antidepressants
- c- Macrolides
- d- Benzodiazepines.

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21- Most important receptor involved in chemotherapy induced vomiting is:

- a- Histamine H1 receptor
- b- Serotonin 5-HT3 receptor
- c- Dopamine D2 receptor
- d- Opioid  $\mu$  receptor

22- The antidote of choice in paracetamol poisoning is:

- a- Flumazenil
- b- Sodium bicarbonate
- c- N-acetylcysteine
- d- Methylene Blue .

23- Which of the following is not used in the management of thyroid storm?

- a- Potassium iodide
  - b- Reserpine
  - c- Propranolol
  - d- Calcium channel blocker
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Oral exam will be 19/2/2022 after written exam at 1 PM in the pharmacology department