**PHARMACOLOGY I REVISION QUESTIONS**

**1. Which of the following is the antidote for the toxin Benzodiazepines?**

A. Flumazenil

 B. Methylene blue

 C.Deferoxamine

 D.Alkalinize urine

**2. Which of the following is the antidote for the toxin Lead?**

A. Naloxone

B. Nitrite

C. Ca EDTA

D. Dialysis

**3. Which of the following is the primary site of activity for the drug Warfarin?**

A. Kidney

B. Liver

C. Blood

D. Heart

**4. Lansoprazole is not used in which of the following cases?**

A. Gastritis

B. Peptic Ulcers

C. Zollinger-Ellison syndrome

D. Thalamus hypertrophy

**5. Which of the following drugs is associated with the reaction of Cinchonism?**

A. Valproic acid

B. Quinidine

C. Isoniazid

D. Ethosuximide

**6. Which of the following drugs is associated with the reaction of hepatitis?**

A. Valproic acid

B. Quinidine

C. Isoniazid

D. Ethosuximide

**7. Which of the following drugs is associated with the reaction of Stevens-Johnson syndrome?**

A. Valproic acid

B. Quinidine

C. Isoniazid

D. Ethosuximide

**8. Which of the following drugs is associated with the reaction of Tendon dyfunction?**

A. Digitalis

B. Niacin

C. Tetracycline

D. Fluoroquinolones

**9. A drug ending in the suffix (pril) is considered a \_\_\_\_\_\_.**

A. H

B. ACE inhibitor

C. Antifungal

D. Beta agonist

**10. A drug ending in the suffix (azole) is considered a \_\_\_\_\_\_.**

A. H

B. ACE inhibitor

C. Antifungal

D. Beta agonist

**11. A drug ending in the suffix (tidine) is considered a \_\_\_\_\_\_.**

A. Antidepressant

B. Protease inhibitor

C. Beta antagonist

D. H2 antagonist

**12. A drug ending in the suffix (navir) is considered a \_\_\_\_\_\_.**

A. Antidepressant

B. Protease inhibitor

C. Beta antagonist

D. H2 antagonist

**13. Which of the following drugs is associated with the reaction of extreme photosensitivity?**

A. Digitalis

B. Niacin

C. Tetracycline

D. Fluoroquinolones

**14. Which of the following is not related to a drug toxicity of Prednisone?**

A. Cataracts

B. Hypotension

C. Psychosis

D. Acne

**15. Which of the following is not related to a drug toxicity of Atenolol?**

A. CHF

B. Tachycardia

C. AV block

D. Sedative appearance

**16. Which of the following is considered a class IA Sodium Channel blocker?**

A. Mexiletine

B. Aminodarone

C. Quinidine

D. Procainamide

**17. Which of the following is considered a class IA Sodium Channel blocker?**

A. Propafenone

B. Disopyramide

C. Aminodarone

D. Quinidine

**18. Potassium sparing diuretics have the primary effect upon the \_\_\_\_\_ found in the kidney.**

A. Proximal convoluted tubule

B. Loop of Henle

C. Collecting duct

D. Distal convoluted tubule

**19. Which of the following is not directly related to a drug toxicity of Nitroglycerin?**

A. Headaches

B. Tachycardia

C. Dizziness

D.Projectile vomiting

**20. Which of the following is not directly related to a drug toxicity of Ibuprofen?**

A. Nausea

B. Renal dysfunction

C. Anemia

D. Muscle wasting

**21.** **(Multiple Answer) Concerning oral administration -- disadvantages**

 A) least economical
 B) drug taken orally may cause emesis
 C) drug taken orally may be destroyed by gastric acidity
 D) drug taken orally may be metabolized by gastrointestinal flora
 E) drug taken orally may be in consistently absorbed due to the presence of food

**22. (Multiple Answer) Typical properties of carrier-mediated drug transport:**

A) non-saturable
 B) active transport
 C) energy requiring
 D) inhibitable

**23. (Multiple Choice) Driving force in drug movement in aqueous diffusion model:**

A) active transport-- energy requiring
 B) facilitated transport
 C) drug concentration gradient

**24. (Multiple Choice) Renal excretion factor most likely to be sensitive to drug ionization state:**

A) glomerular filtration
 B) passive tubular reabsorption

**25. (Multiple Choice) Drug(s) which exhibit(s) a high hepatic" first-pass" effect:**

 A) lidocaine
 B) propranolol
 C) both
 D) neither

**26. (Multiple Choice) Permanently charged amine form:**

A) primary amine
 B) secondary amine
 C) tertiary amine
 D) quaternary amine

**27. (Multiple Answer) For high extraction-ratio drugs, patient to patient bioavailability may vary due to differences in:**

A) hepatic function
 B) blood flow
 C) the presence of hepatic disease

**28. (Multiple Answer) Factors associated with drug absorption that can result in incomplete absorption**

A) drug metabolism by gastrointestinal flora
 B) drug hydrophilicity (opposite of lipophilicity)
 C) drug instability in gastric acid
 D) presence of food in the GI tract
 E) drug-drug interactions

**29. (Multiple Answer) Drug characteristics contributing to reliable transdermal drug absorption:**

A) molecular weight less than 1000
 B) drug does not cause histamine release
 C) the daily drug requirement is less than 10 mg
 D) in saturated aqueous solution, the pH range is 5-9

**30. (Multiple Choice) Concerning parenteral drug administration:**

 A) less predictable compared to oral administration route
 B) not acceptable for unconscious patients
 C) rate of drug systemic absorption insensitive to drug solubility in interstitial

 fluid
 D) rate of systemic drug absorption following parenteral administration

 depends on absorbing capillary membrane surface area

**31. (Multiple Answer) Pharmacokinetic advantages associated with transdermal drug delivery:**

A) relatively constant, sustained therapeutic plasma drug concentrations
 B) commonly low side-effect incidence
 C) good patient compliance

**32. (Multiple Choice) Drugs for which "first-pass" pulmonary uptake may exceed 65% of injected dose:**

A) fentanyl
 B) alfentanil
 C) sufentanil
 D) meperidine
 E) all of the above

**33. (Multiple Answer) Routes of administration that avoid "first-pass" hepatic effects:**

A) sublingual
 B) oral
 C) transdermal
 D) lower rectal suppositories
 E) inhalation

**34. (Multiple Choice) Drugs least likely to penetrate across membranes:**

A) protein-bound drugs
 B) charged drugs
 C) neutral drugs

**35. (Multiple Answer) Available for transdermal drug delivery:**

A) scopolamine
 B) fentanyl
 C) nitroglycerin

**36. (Multiple Answer) Concerning "first pass" elimination:**

A) drug is first transported across the gut wall into the portal circulation
 B) drug metabolism may occur in the intestinal wall
 C) sometimes extensive drug metabolism may occur in the liver
 D) the liver may excrete drug into the bile
 E) first-pass effects may reduce drug bioavailability

**37. (Multiple Answer) Factor(s) which effect a drug's volume of distribution:**

A) patient's gender
 B) patien'ts age
 C) presence of disease
 D) drug pKa
 E) extent of drug-plasma protein binding

**38. (Multiple Choice) Two most important sites for drug elimination:**

A) pulmonary and liver
 B) liver and gastrointestinal tract
 C) kidney and liver
 D) skin and liver
 E) pulmonary and kidney

**39. (Multiple Choice) Concerning transfer of basic drugs such as nonionized local anesthetics from mother to fetus:**

A) fetal pH is higher than maternal pH
 B) in fetal distress alkalosis contributes to local anesthetic accumulation
 C) concerning maternal blood: fetal blood -- gradient is maintained for

 continual local anesthetic transfer from maternal circulation to fetal

 circulation

**40. (Multiple Answer) Characteristics of renal drug excretion:**

A) nearly all drugs are filtered at the glomerulus
 B) drugs which are weak acids are excreted faster in acidic urinary pH
 C) drugs which are weak base is our excreted faster in alkaline urinary pH
 D) body fluids where pH differences from blood pH may favor on and

 trapping include breast milk and aqueous humor (eye)

**SHORT ANSWER QUESTIONS**

**1. a) D**escribe the adverse effects of glucocorticoids5MKS

 **b)** Explain the mechanism of action and clinical indications of glucocorticoids 2MKS

2. Describe the stepwise pharmacological management of pain 10MKS

3. Describe the mechanisms of action and main unwanted effects of opioid analgesics 10MKS

4. What is polypharmacy? Why is polypharmacy more common in the elderly? 10MKS

5. Describe the effects of age on variability of drugs 4MKS

6. Describe the clinical indications and unwanted effects of muscarinic antagonists 10MKS

7. Describe the pharmacologic effect, clinical indications and common unwanted effects of beta blockers 10MKS

8. Explain the mechanism of action and clinical use of benzodiazepine anxiolytics including their common side effects 6MKS

9. Compare the mechanisms of action of loop diuretics, thiazide diuretics and potassium sparing diuretics 12MKS

10. Describe mechanisms of action, clinical indications and side effects of oral anti-diabetic drugs, biguanides and sulfonylureas 10MKS

11. Describe the clinical indications of insulin treatment 5MKS

12. Describe the mechanism of action, clinical use and adverse effects of metoclopramide in nausea and vomiting 6MKS

13. Explain the available pharmacologic options for management of nausea and vomiting 10MKS

14. Explain the pharmacological rationale for the triple therapy of a Proton pump inhibitor, clarithromycin and amoxicillin in the treatment of H.pylori 4MKS

15. Explain the therapeutic effects, clinical use and adverse effects of cimetidine 1OMKS

16. Describe the key medications in the ‘cough mixtures’ 5MKS

17. Explain the main anti-inflammatory strategies used in the management of asthma 5MKS

18. Describe calcium channel blockers, warfarin, and pethidine under the following sub-headings: 2OMKS

 i) classification

 ii) Mechanism of action

 iii) Indications

 iv) Contraindications

 v) Side-effects/adverse effects

 vi)Toxicities

 vii) Dosage, preparation and administration

 viii) Nursing responsibility

19. Explain the therapeutic effects of atenolol in the treatment of hypertension. Name four other drug categories that can be used for hypertension 6MKS

20. Explain the therapeutic effects of aspirin in angina 5MKS

21. Describe the mechanism of action and clinical uses of class I, II, III & IV antiarrhythmic drugs and name one drug for each category 20MKS

22. What are the major body compartments for drug distribution? Define volume of distribution of a drug. 1OMKS

23. What are the main routes of drug administration? Describe the advantages and disadvantages of each route of drug administration 2OMKS

24. Explain the objective and process of metabolism of drugs in the liver 5MKS

25. Define bioavailability and biotransformation. How is the absolute bioavailability calculated? 4MKS

26. Describe the variables that affect drug absorption 4MKS

27. What are the four drug transport routes across cell membrane? 4MKS

28. Define antagonism and explain its possible mechanisms 5MKS

29. a) What is a receptor? 1MK

 b) Compare and contrast type 1-4 receptors 8MKS

 c) What is the nature of binding between drugs and receptors? 2MKS

30. Define as applies to drugs: 2MKS EACH

a) Agonists (full & partial);

b) Antagonists,

c) Affinity,

d) Potency

e) Efficacy

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QUESTION 2: (10 MARKS TOTAL)

Cardiovascular diseases

A. Stable angina

B. Myocardial infarction

C. Hypertension

D. Cardiac arrhythmias

E. Chronic heart failure

Using the letters (A-E) in the list above, fill in the following table to indicate which

cardiovascular diseases can be treated with the drugs shown in the leftmost column. Each

letter may be used once, more than once, or not at all. There are 10 answers in total, so

some boxes should remain blank.

Drugs Cardiovascular diseases

Ca

2+

 channel

blockers

A C D

ACE inhibitors

A C E

clopidogrel

B

nicorandil

A

diuretics

E

31. Describe five classes of diuretics, detailing the sites of action (10MKS)

33. Describe the classification of anticancer drugs (20MKS)

34. State 10 side effects of chemotherapy (10MKS)

35. Describe the classification of antifungal agents, giving MOA and examples 20mks

36. Describe the classification of antiviral agents, including the MOA and examples in each class 2omks

37. Describe the classification of anti-retroviral agents, including MOA examples under each class 20mks

38. Describe 12 classes of anti-bacterial drugs/antibiotics comprehensively, including examples and other details on each class 20mks

39. Describe the following comprehensively: each 20mks

 i) antimalarials

 ii) Antiprotozoals/amebicides

 iii) Antihelminthics

40. a) Define histamine 1mk

 b) Explain the clinical manifestations related to histamine release 6mks

 c) Describe four histamine receptors in terms of distribution and function 8mks

 d) State 8 uses of the first generation H1 receptor antagonists. Give examples of this class of drugs 10mks

 e) State the uses of the 2nd generation H1 receptor antagonists. Give examples of this class of drugs 5mks

41. Describe the following haematinics: TOTAL 20 MKS

 i) Iron sulphate

 ii) Folate

 iii) Vitamin B12

 iv) Erythropoietin

**BEST OF LUCK IN YOUR REVISION!!!**