## All Questions: Select the single, most appropriate answer.

PHARM 2008 FINAL

Which of the following drugs is most likely to reduce heart rate and force of 1. JHR; for myocardial contraction?



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Prazosin

Hydralazine

Propranolol - Hype My roil in

Nitroglycerin

E. Nifedipine

Penicillin V is used orally in dentistry in preference to penicillin G for which 2. one of the following reasons?



It is less toxic

It is more stable to stomach acid It is intrinsically more effective

It tastes better D.

It is bacteriostatic

For questions 3 and 4:

A dental patient is being treated prophylactically with an antibiotic during extensive dental work. After a week of therapy the patient complains of severe and bloody diarrhea.

Which of the following antibiotics is most likely responsible for the toxicity? 3.



Clindamycin

Erythromycin

C. Sulfamethoxazole

D. Tetracycline

E. Vancomycin

The dentist prescribes another drug to treat the diarrhea. Which of the following 4. drugs is most likely to be prescribed?



Clindamycin Α.

B.

Sulfamethoxazole of the premorin if HIV C.

D. Tetracycline

Vancomycin Œ.

Which of the following classes of antibiotics would be most useful by oral 5. administration in treatment of a gram-negative bone infection?



An aminoglycoside

A broad spectrum penicillin

A cephalosporin

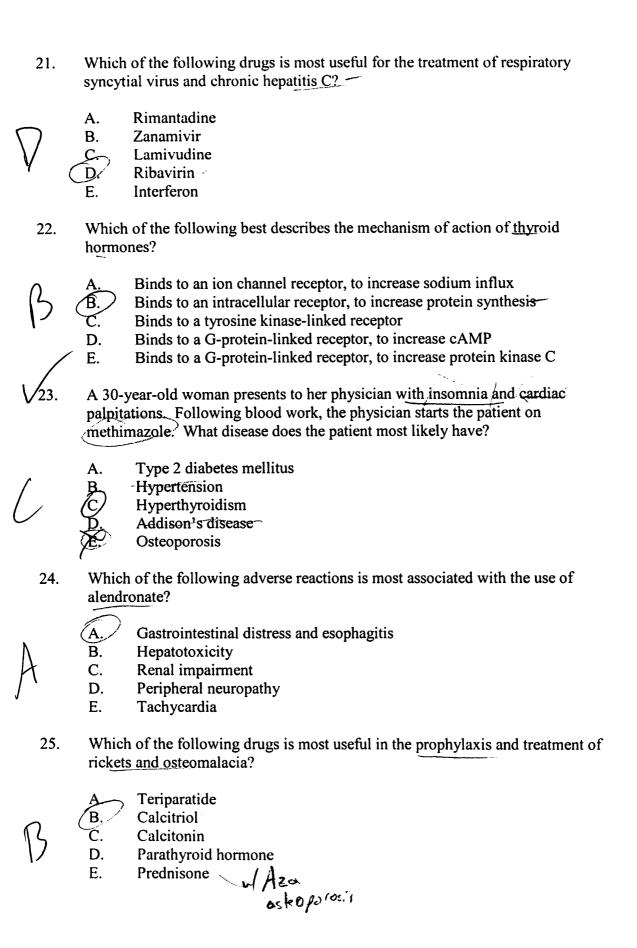
A fluoroquinolone -

A tetracycline

6.	Which of the following antibiotics is most associated with drug interactions causing enhanced metabolism of warfarin and other drugs?
$\bigcap$	A. Amoxicillin B. Chloramphenical C. Clindamycin D. Rifampin E. Tetracycline
7.	Which of the following antibiotics is most likely to cause a disulfiram-type reaction (nausea and headache) when taken with alcohol?
	A. Chloramphenicol B. Ciprofloxacin C. Chlortetracycline D. Metronidazole E. Streptomycin
<b>√</b> 8.	Which of the following antibiotics is metabolized by the liver, and thus NOT eliminated unchanged by renal excretion?
	Ampicillin B. Ciprofloxacin C. Doxycycline D. Penicillin G E. Tetracycline
9.	Digoxin is most likely to produce which of the following effects?
B	A. Decrease in cardiac automaticity  Prolongation of the PR-interval of the ECG  C. Reduced cardiac output  D. Induction of P450  E. Urinary retention
120.	Which of the following drugs: 1) is used as a general anesthetic; 2) is given intravenously; 3) is useful as an ICU sedative; 4) allows the patient to recover most rapidly, with the least postsurgical drowsiness?
A	A. Propofol B. Thiopental C. Etomidate D. Nitrous oxide Fentanyl

11.	The ar	ntithrombotic activity of clopidogrel is produced by
L	A. B. C. D.	Interaction with antithrombin III Direct inhibition of thrombin Irreversible binding to platelet ADP receptors Inhibition of thromboplastin-dependent action of Factor VII Blocking the platelet fibrinogen receptor
12.		of the following drugs is most likely to induce DNA damage during cancer otherapy?
$\bigcirc$	A. B. C. D. E.	Asparaginase Leuprolide Aminoglutethimide Cyclophosphamide Flutamide
13.	Tamo	xifen is most effective for the treatment of
	B. C. D. E.	Prostate cancer Breast cancer Melanoma Lymphoma Chronic myeloid leukemia
V14.		s, salivation, sweating, bronchial constriction, bradycardia, vomiting and ea are signs of an overdose of which of the following classes of drugs?
	B. C. E.	Muscarinic receptor antagonists Nicotinic receptor antagonists Cholinesterase inhibitors Alpha-adrenergic receptor antagonists Beta-adrenergic receptor agonists
15.		le weakness, bone pain, anorexia, ectopic calcification, and cardiac hmias are most likely to result from excessive intake of
	A. B. C. D. E.	Vitamin A Vitamin C Vitamin D Vitamin E Vitamin K

16.	Which of the following vitamins is used as adjunctive therapy in patients with hyperlipidemia?	
6	A. Pyridoxine B. Folic Acid C. Nicotinic acid (Niacin) Pantothenic acid E. Riboflavin	
<b>V</b> 17.	Use of pilocarpine is most likely to produce	
E,	A. Pupillary dilitation B. Bronchodilation C. Constipation Tachycardia Increased salivation	
18.	Which of the following best describes the mechanism of action of <u>itraconazole?</u>	
$\nabla$	A. Binds to ergosterol in fungal cells to disrupt cell membranes  B. Inhibits thymidylate synthetase C. Inhibits spindle formation in fungal cell mitosis Inhibits ergosterol synthesis E. Inhibits squalene epoxidase	
19.	A patient is being treated with terbinafine for onychomycosis. The physician performs blood work during therapy. The physician is most concerned about	
E	A. Metabolic acidosis B. Renal impairment C. Peripheral neuropathy D. Bone marrow suppression Hepatotoxicity	
20.	Which of the following best describes the mechanism of action of acyclovir?	
E	<ul> <li>A. Is a viral protease inhibitor</li> <li>B. Inhibits viral uncoating</li> <li>C. Is a neuraminidase inhibitor</li> <li>D. Inhibits reverse transcriptase</li> <li>E. Inhibits viral DNA polymerase</li> </ul>	



26.	Which of the following statements best describes the mechanism of action of insulin?		
6	A. Binds to an ion channel receptor to increase chloride influx B. Binds to a G-protein-linked receptor to increase cAMP Binds to a tyrosine kinase-linked receptor Binds to a nuclear receptor to increase protein synthesis E. Binds to a G-protein-linked receptor to decrease cAMP		
Á.	Which of the following drugs enhances the binding of insulin to its receptor, leading to enhanced glucose uptake, and reduced glucose production? It may produce lactic acidosis in patients with renal insufficiency.		
0	Acarbose Glyburide Metformin D. Insulin glargine E. Tolbutamide		
28.	Which of the following drugs blocks estrogen receptors in the pituitary to prevent negative feedback, thus inducing follicular development and ovulation?		
<u>C</u>	A. Ethinyl estradiol B. Mestranol C. Clomiphene D. Levothyroxine E. Nandrolone		
29.	Effects of estrogens in hormone replacement therapy are most likely to include		
E	<ul> <li>A. Reduction in breast cancer</li> <li>B. Reduction in body temperature</li> <li>C. Reduction in HDLs</li> <li>D. Increased risk of osteoporosis</li> <li>E. Increased risk of thromboembolic disorders</li> </ul>		
30.	Pharmacological effects of exogenous glucocorticoids are most likely to include		
E	<ul> <li>A. Increased muscle mass</li> <li>B. Hypoglycemia</li> <li>C. Improved wound healing</li> <li>D. Increased excretion of sodium and water</li> <li>E. Inhibition of prostaglandin and leukotriene synthesis</li> </ul>		

Which of the following best describes the mechanism of action of dexamethasone? Enhances gene expression and protein synthesis Induces adenylyl cyclase Inhibits adenylyl cyclase Stimulates a tyrosine kinase-linked receptor Opens chloride channels E. Which of the following combinations of drugs is most effective in the treatment of severe acute adrenal insufficiency? Aldosterone and fludrocortisone Cortisol and fludrocortisone Dexamethasone and metyrapone Flunisolide and dehydroepiandrosterone Triamcinolone and dexamethasone Therapy with which class of drugs results in the development of hypokalemia, 33. hyperglycemia, hyperuricemia, and ototoxicity? A xanthine diuretic A potassium sparing diuretic An osmotic diuretic A loop diuretic A thiazide diuretic Characteristics of opioid antitussives include all of the following EXCEPT Stimulate the respiratory center Release histamine --Are-analgesic -- Depress the cough-reflex Develop tolerance to their action on the cough reflex E. 35. All of the following antiseptics/disinfectants are correctly paired with the accompanying actions EXCEPT Sodium hypochlorite-release of chlorine Iodophors-rapidly release iodine— C. Surface active agents-effective against gram-positive organisms D. Oxidizing agents-alter subgingival environment Iodine compounds-antibacterial, antifungal, antiprotozoal, antiviral

## 36. Signs of fluoride poisoning would LEAST likely include

B

- A. Hyperreflexia
- (B.)
- Cardiovascular stimulation
- C. Nausea
- D. Diarrhea
- 37. According to the classification of controlled substances by schedule, all of the following statements would be true **EXCEPT** 
  - A. Schedule I drugs have the greatest potential for abuse T
  - B. Prescriptions for Schedule II drugs must be in the pharmacy before the preparation is dispensed
  - C. Prescriptions for Schedule II drugs may not be refilled
  - D. Prescriptions for Schedule III drugs may be telephoned and dispensed, the prescription being subsequently forwarded to the pharmacy Prescriptions for Schedule IV drugs may routinely be refilled up to

five times within a six month period

A drug possessing which of the following pharmacokinetic parameters is **LEAST** likely to diffuse across the placenta?



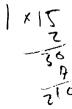
- A. A drug that is highly lipophilic
- B. A drug with a low molecular weight
  - A drug which binds with high affinity to plasma proteins
  - A drug that is highly ionized
- E. A drug that is prescribed after dental surgery
- 39. During an emergency procedure, you reach for an ampoule labeled EPINEPHRINE 1:1000 and administer 0.3 mL, How much epinephrine did you inject?



- A. 0.0003 mg
- B. 0.003 mg
- C. 0.03 mg
- D 0.3 mg E. 3.0 mg
- 40. Following a dental procedure, a 65-year-old patient was instructed to use a tablespoonful of liquid medication diluted in a glass of water as an oral rinse twice daily for seven days. The total amount of liquid medication used was



- A. 35 mL
- B. 70 mL
- C. 140 mL
- 210 mL E. 280 mL



41.	A businessman decides to avoid prophylactic measures prior to his trip to Mexico. What drug should he use acutely when he develops symptoms of traveler's diarrhea?
7	A. Kaopectate B. Lactulose C. Atropine D. Loperamide E. Omeprazde
<b>A</b> 2.	Which of the following statements about local anesthetics is true?
3	Patients with liver cirrhosis have slower metabolism of tetracaine The ionic form of etidocaine is the active form at its site of action Lidocaine acts on the extracellular side of voltage-sensitive potassium channels Epinephrine is included in some local anesthetic preparations to counter
	their effects on the cardiovascular system
h	<ul><li>E. Lidocaine causes vasoconstriction</li><li>Which of the following adverse reactions is most associated with levodopa</li></ul>
<b>√</b> 13.	therapy?
7	A. Elevation of intraocular pressure  B. Renal impairment  C. Elevation in serum prolaction  Nausea and motor tics  E. Bradycardia
44.	If you drink a glass of wine without any food intake, how long after consumption will the maximal alcohol concentration in the blood be reached?
1	A. 10-20 min  24hr  30-90 min  2-4 hr  E. 6-12 hr
45.	Which of the following statements about cancer chemotherapy is most accurate?
)	<ul> <li>A. Single agents used once are an effective treatment</li> <li>B. Tumor cell regrowth exceeds tumor cell kill</li> <li>C. Normal cells are not affected during treatment</li> <li>D. Combination chemotherapy reduces the possibility of drug resistance</li> <li>E. Repetitive treatment destroys an equal number of cancer cells</li> </ul>



No acute toxicity is most likely during treatment with





Alkylating agents

Antimetabolites

Antiestrogens

Antimitotics

E. Asparaginase

- 47. A patient with a duodenal ulcer is treated successfully with cimetidine. Which of the following best describes the mechanism of action of cimetidine?
  - A. Blocks muscarinic receptors on parietal cells

**Blocks ATPase** 

Blocks H-2 receptors on parietal cells

- D. Enhances the action of acetylcholine on parietal cells
- E. Increases intracellular cAMP levels
- 48. Which one of the following agents is most likely to cause systemic alkalosis when used orally as an antacid?



B.

Aluminum hydroxide

Sodium bicarbonate

Calcium carbonate

- D. Basic aluminum carbonate
- E. Magnesium hydroxide
- 49. Many antacids are marketed as combinations of magnesium and aluminum hydroxides because



The laxative effect of magnesium is counteracted by the constipating effect of aluminum

- B. Magnesium hydroxide alone neutralizes gastric acid too slowly
- C. Magnesium minimizes the absorption of aluminum
- D. Aluminum hydroxide alone tastes very bad
- E. Aluminum hydroxide alone causes abdominal cramps

The drug of choice for the treatment of anaphylactic shock is





Isoproterenol

Epinephrine

Diphenhydramine

- D. Atropine
- E. Ibuprofen

**§**1./

A psychotic individual taking <u>haloperidol</u> developed severe muscle rigidity and fever (neuroleptic malignant syndrome). The haloperidol was discontinued immediately and the patient was given which one of the following drugs?





Propofol

Fentanyl

Flumazenil

E.

Acetaminophen

.) Dantrolene

- 52. A patient in the neurology unit at Temple Hospital develops status epilepticus. Which one of the following is the best first intravenous drug to give?
  - A. Carbamazepine
  - B. Phenytoin
  - C. Phenobarbital
    - Valproic acid -
  - D. E.

Lorazepam

/ 53.

Which one of the following agents is an endogenous ligand for cannabinoid receptors?





Dynorphin

Beta-endorphin

Dronabinol

Met-enkephalin

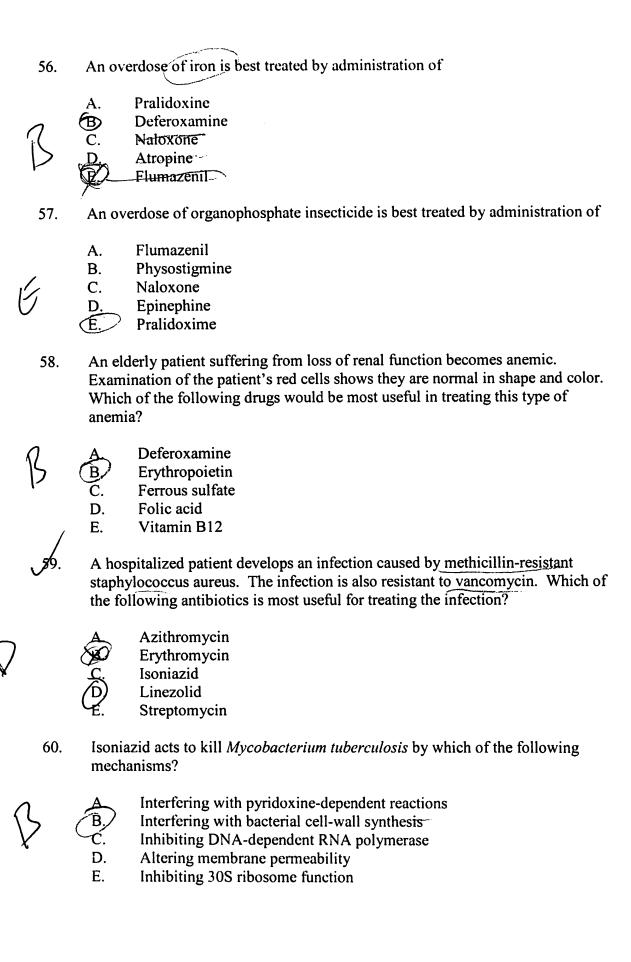
Anandamide

54. The cardiopulmonary depression caused by moderate to high doses of gamma hydroxybutyrate can be enhanced by co-administration of which of the following agents?

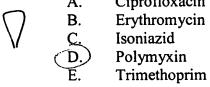


A Ethanol

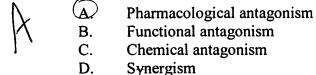
- B. Methylphenidate
- C. Lithium
- D. Lysergic acid diethylamine
- E. Ginseng
- 55. An overdose of aspirin is most likely to produce
  - A. Hypoglycemic coma
  - B Constipation and mydriasis
  - C. Tinnitus and metabolic acidosis
  - D. Hypertensive crises
  - E. Delayed hepatotoxicity



61. Which of the following drugs is used in combination with various penicillins to inhibit beta-lactamase activity? Cilastatin Clavulanic acid Imipenem D. Probenecid E. Procaine Which of the following antibiotic combinations is most likely to be antagonistic, 62. and not beneficial to the patient? A. Rifampin + Isoniazid Rifampin + Erythromycin B. Penicillin + Aminoglycoside Penicillin + Tetracycline D. Trimethoprim + Sulfamethoxazole Which of the following antibiotics is most likely to be used topically? 63. A. Ciprofloxacin



64. The competition between an active and an inactive drug for a common receptor (e.g., phentolamine and norepinephrine on vascular smooth muscle) represents a drug interaction termed



E. Additivity

A patient with a history of cardiac arrhythmias complains of rash, joint pain and anemia. These symptoms are similar to lupus erythematosus. This patient is most likely taking which antiarrhythmia drug?





Lidocaine

Procainamide

Quinidine

D. Disopyramide

E. Flecainide

<b>6</b> 6.	Which of the following drugs increases lipoprotein lipase activity, thus lowering VLDL levels?
13	A. Atorvastatin  B. Gemfibrozil C. Ezetimibe  Niacin E. Colestipol
67.	Which of the following toxic side effects is most associated with the use of doxorubicin during cancer chemotherapy?
E	A. Endometriosis B. Hyperglycemia C. Hepatotoxicity D. Impotence E. Cardiotoxicity
68.	Which of the following processes or target molecules is most likely to be inhibited by imatinib?
$\bigcap$	A. DNA synthesis B. Protein translation C. Intracellular transport D. Bcr-Abl tyrosine kinase Lipid metabolism
69.	Baclofen is equally effective as diazepam in reducing muscle spasticity, and has the therapeutic advantage of
$\nabla_{\perp}$	A. Producing less gastrointestinal disturbance B. Requiring less frequent administration Causing less running nose Producing less sedation Causing less malignant hyperthermia
<b>7</b> 0.	Which of the following vitamins is essential for the synthesis of several clotting factors?
$\bigvee$	A. Vitamin A B. Vitamin B1 Vitamin E Vitamin K E. Vitamin M

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71.	An early sign of vitamin A deficiency is
B	A. Beriberi B. Night blindness C. Scurvy D. Rickets E. Megaloblastic anemia
72.	Uses of atropine and related muscarinic antagonists are most likely to include treatment or prevention of
L	A. Tachycardia B. Alzheimer's disease C. Bronchial asthma D. Constipation E. Glaucoma
73.	Topical administration of which of the following drugs is most useful for the treatment of vaginal candidiasis?
	A. Caspofungin B. Terbinafine Miconazole D. Flucytosine E. Griseofulvin
74.	Use of which of the following drugs is most associated with nephrotoxicity?
1	A Amphotericin B  B. Flucytosine C. Voriconazole D. Tolnaftate E. Griseofulvin
75.	Which of the following antiviral drugs, useful in the treatment of cytomegaloviral infections, is most likely to produce nephrotoxicity, anemia and seizures?
B	A. Trifluridine B. Ganciclovir C. Acyclovir D. Zidovudine E. Amantadine

76.	Which of the following drugs is a reverse transcriptase inhibitor, useful in the treatment of HIV and Hepatitis B?
E	A. Amantadine B. Trifluridine C. Valacyclovir D. Ganciclovir E. Lamivudine
77.	A patient has been treated with high doses of levothyroxine for the past 6 months Which of the following adverse reactions is most likely to occur?
K	A. Tachycardia B. Hypotension C. Hypoglycemia D. Hypothermia E. Hypercholesterolemia
78.	Which of the following best describes the adverse reaction profile of propylthiouracil?
$\bigcirc$	A. Hypertension and tachycardia B. Hyperglycemia and ketoacidosis C. Hepatotoxicity D. Maculopapular rash and gastrointestinal upset E. Weight loss and insomnia
79.	Which of the following best describes the mechanism of action of parathyroid hormone?
$\nearrow$	A. Binds to an intracellular receptor to enhance protein synthesis B. Binds to a tyrosine kinase-linked receptor C. Binds to the chloride ionophore D. Binds to a G-protein-linked receptor to increase cAMP E. Binds to a G-protein-linked receptor to increase intracellular calcium
80.	Which of the following drugs directly binds to hydroxyapatite crystals to reduce resorption of calcium from bone, and reduce bone turnover?
C	A. Levothyroxine  B. Calcitriol C. Ibandronate D. Estradiol E. Propylthiouracil

81.	A 12-year-old boy with Type-1 diabetes mellitus, enters the emergency room in ketoacidosis, coma and a blood sugar over 600 mg/dL. Which of the following drugs is most useful by the intravenous route for acute treatment of his symptoms?		
-	A Regular insulin B. Glipizide C. Exenatide D. Repaglinide E. NPH insulin		
82.	Which of the following drugs stimulates insulin secretion and is most likely to produce hypoglycemia in a type-2 diabetic patient?		
	A. Metformin B. Glipizide C. Acarbose D. Rosiglitazone E. Propranolol		
83.	Which of the following drugs is most useful in the treatment of prostate cancer because it blocks androgen receptors?		
	A. Levonorgestrel B. Mestranol C. Oxybutynin D. Flutamide E. Exemestane		
84.	Which of the following drugs inhibits phosphodiesterase (PDE5) and is therefore useful in the treatment of erectile dysfunction?	re	
	A. Doxazosin B. Nandrolone C. Sildenafil D. Oxybutynin E. Megestrol		
85.	Toxic effects of long term administration of prednisolone are most likely to include		
/	A. A "lupus-like" syndrome B. Hepatotoxicity C. Osteoporosis D. Renal impairment E. Weight loss		

86.	Problems which develop as a result of therapy with loop diuretics would most likely include	
	A. B. C.	Hypoglycemia Elevation of plasma lipids Hypernatremia
0	D. E.	Hypercalcemia Hypokalemia
87.	Which overdo	of the following drugs is most useful in the treatment of acetaminophen ose?
B	B. C. D. E.	Guaifenesin Acetylcysteine Potassium iodide Ipecac Terpin hydrate
88.		mechanisms of action of local anti-infectives include
$\Diamond$	A. B. C. D.	Osmotic disruption of the cell Denaturation of cellular protein Interference with metabolic processes All of the above
89.	Which	of the following would LEAST characterized alcohols?
L	A. B C D. E.	Are bactericidal Are rapidly-acting Are effective antivirals Denature protein Are highly volatile
90.	All of the following statements about anticaries approaches in humans are true <b>EXCEPT</b>	
	A.	There is a direct relationship between fluoride concentration in drinking water and anticaries protection
	B. C.	There is a direct relationship between fluoride concentration in drinking water and the occurrence of enamel fluorosis  The mechanism of fluoride action deals with the formation of more
	D.	soluble fluorapatite from the less soluble hydroxyapatite  Five parts per million fluoride concentration in drinking water can give more anticaries protection than one part per million
	E.	There is a direct relationship between fluoride concentration in drinking water and the risk of development of hypocalcemia

91.	Which of the following agents has a rapid onset of action, but is inactive prior to its hydrolysis in the intestine?		
6	A. Bran B. Magnesium citrate C. Mineral oil D. Psyllium hydrophilic muciloid (Metamucil) E. Caster oil		
92.	Which of the following drugs would LEAST likely depend on the action of mu opioid receptors in the gastrointestinal tract for its antidiarrheal action?		
7	A. Atropine B. Codeine Diphenoxylate D. Morphine E. Loperamide		
93.	The antianginal effect of beta adrenoceptor blockers is attributed to		
(	A. Increased heart rate B. Increased cardiac contractility C. Decreased heart rate and contractility D. Venodilation E. Dilation of coronary arteries		
94.	A 50-year-old patient is given midazolam for a short medical procedure. At the end of the procedure, the effects of midazolam are reversed by administration of		
\$	A. Naloxone B. Flumazenil C. Sodium bicarbonate D. Atropine E. Pralidoxime		
95.	The formation of oral and gastrointestinal ulcers is a side effect of treatment with		
7	Docetaxel  Methotrexate  D. 6-Thioguanine  E. Tamoxifen Scart Coner		

96.		one of the following drugs is most likely to prevent NSAID-induced by stimulating secretion of mucus by the gastric mucosa?
	A.	Ranitidine
$\bigcirc$	B.	Sucralfate
γ	C.	Bismuth subsalicylate
	(D.)	Misoprostol Esomeprazole
	L.	Lisomephazoie
97.		one of the following drugs is a centrally acting alpha-2 adrenoceptor at, producing dry mouth, drowsiness and bradycardia?
	A.	Guanethidine
/	B.	Prazosin
	C.	Mirtazapine
$\mathcal{O}$	$\mathcal{D}$	Terbutaline
$\checkmark$	(E. /	Clonidine
20/18	Which	one of the following drugs is most useful in treating the manic phase of
.\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\		r depression when lithium is contraindicated?
0	$\stackrel{\triangle}{\mathbb{A}}$	Amitriptyline
()	(R)	Sodium valproate Fluoxetine
V	1	Phenobarbital
	E.	Ethosuximide
<i>19</i> 9.		ological changes in elderly patients, compared to young adults, which must
	be con	sidered in drug administration include all of the following EXCEPT
	A.	Increase in body fat
_	B.	Increase in blood volume
7	C.	Decrease in cardiac output
	D.	Decrease in kidney function
	E. d	Decrease in plasma proteins
dØ0.	Which	of the following opioid analgesics has the longest half-life when
Ü		nistered chronically?
	٨	Uydramarnhana
/	B	Hydromorphone Oxycodone
jv,	Č.	Fentanyl
V	Ď.	Morphine
	E.	Methadone