

All Questions: Select the single, most appropriate answer.

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

↓ HR & force

- A. Prazosin
B. Hydralazine
C. Propranolol - *Hypr. Myocardium*
D. Nitroglycerin
E. Nifedipine

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

- A. It is less toxic
B. It is more stable to stomach acid
C. It is intrinsically more effective
D. It tastes better
E. 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.

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

- A. Clindamycin
B. Erythromycin
C. Sulfamethoxazole
D. Tetracycline
E. Vancomycin

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

- A. Clindamycin
B. Erythromycin
C. Sulfamethoxazole - *w/ folic acid*
D. Tetracycline
E. Vancomycin

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

- A. An aminoglycoside
B. A broad spectrum penicillin
C. A cephalosporin
D. A fluoroquinolone
E. A tetracycline

6. Which of the following antibiotics is most associated with drug interactions causing enhanced metabolism of warfarin and other drugs?

- D
- A. Amoxicillin
 - B. Chloramphenicol
 - 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?

- D
- A. Chloramphenicol
 - B. Ciprofloxacin
 - C. Chlortetracycline
 - ☒ D. Metronidazole
 - E. Streptomycin

✓ 8. Which of the following antibiotics is metabolized by the liver, and thus NOT eliminated unchanged by renal excretion?

- C
- ☒ A. Ampicillin
 - B. Ciprofloxacin
 - C. ~~Doxycycline~~
 - ☒ D. Penicillin G
 - E. ~~Tetracycline~~

hepatotoxic

9. Digoxin is most likely to produce which of the following effects?

- B
- A. Decrease in cardiac automaticity
 - ☒ B. Prolongation of the PR-interval of the ECG
 - C. Reduced cardiac output
 - ~~D. Induction of P450~~
 - E. Urinary retention

CHF

✓ 10. 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~~
 - ~~E. Fentanyl~~

11. The antithrombotic activity of clopidogrel is produced by

- ☒ C. Irreversible binding to platelet ADP receptors
- A. Interaction with antithrombin III
- B. Direct inhibition of thrombin
- D. Inhibition of thromboplastin-dependent action of Factor VII
- ~~E. Blocking the platelet fibrinogen receptor~~

12. Which of the following drugs is most likely to induce DNA damage during cancer chemotherapy?

- ☒ D. Cyclophosphamide
- A. Asparaginase
- B. Leuprolide
- C. Aminoglutethimide
- E. Flutamide

13. Tamoxifen is most effective for the treatment of

- ☒ B. Breast cancer
- A. Prostate cancer
- C. Melanoma
- D. Lymphoma
- E. Chronic myeloid leukemia

☒ 14. Miosis, salivation, sweating, bronchial constriction, bradycardia, vomiting and diarrhea are signs of an overdose of which of the following classes of drugs?

- ☒ C. Cholinesterase inhibitors
- ~~A. Muscarinic receptor antagonists~~
- ~~B. Nicotinic receptor antagonists~~
- ~~D. Alpha-adrenergic receptor antagonists~~
- ~~E. Beta-adrenergic receptor agonists~~

15. Muscle weakness, bone pain, anorexia, ectopic calcification, and cardiac arrhythmias are most likely to result from excessive intake of

- ☒ C. Vitamin D
- A. Vitamin A
- B. Vitamin C
- D. Vitamin E
- E. Vitamin K

16. Which of the following vitamins is used as adjunctive therapy in patients with hyperlipidemia?

- C
- A. Pyridoxine
 - B. Folic Acid
 - ☒ C. Nicotinic acid (Niacin)
 - D. Pantothenic acid
 - E. Riboflavin

✓ 17. Use of pilocarpine is most likely to produce

- E
- A. ~~Pupillary dilation~~
 - B. Bronchodilation
 - ☒ C. Constipation
 - ☒ D. Tachycardia
 - E. Increased salivation

18. Which of the following best describes the mechanism of action of itraconazole?

- D
- A. Binds to ergosterol in fungal cells to disrupt cell membranes ^{es}
 - B. Inhibits thymidylate synthetase
 - C. Inhibits spindle formation in fungal cell mitosis
 - ☒ D. 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
 - ☒ E. Hepatotoxicity

20. Which of the following best describes the mechanism of action of acyclovir?

- E
- A. Is a viral protease inhibitor ✓
 - B. Inhibits viral uncoating
 - C. Is a neuraminidase inhibitor
 - D. Inhibits reverse transcriptase
 - ☒ E. Inhibits viral DNA polymerase

21. Which of the following drugs is most useful for the treatment of respiratory syncytial virus and chronic hepatitis C? —

- △
- A. Rimantadine
 - B. Zanamivir
 - C. Lamivudine
 - D. Ribavirin
 - E. Interferon

22. Which of the following best describes the mechanism of action of thyroid hormones?

- β
- A. Binds to an ion channel receptor, to increase sodium influx
 - B. Binds to an intracellular receptor, to increase protein synthesis
 - C. Binds to a tyrosine kinase-linked receptor
 - D. Binds to a G-protein-linked receptor, to increase cAMP
 - E. Binds to a G-protein-linked receptor, to increase protein kinase C

✓ 23. A 30-year-old woman presents to her physician with insomnia and cardiac palpitations. Following blood work, the physician starts the patient on methimazole. What disease does the patient most likely have?

- ⌒
- A. Type 2 diabetes mellitus
 - B. Hypertension
 - C. Hyperthyroidism
 - D. Addison's disease
 - E. Osteoporosis

24. Which of the following adverse reactions is most associated with the use of alendronate?

- A
- A. Gastrointestinal distress and esophagitis
 - B. Hepatotoxicity
 - C. Renal impairment
 - D. Peripheral neuropathy
 - E. Tachycardia

25. Which of the following drugs is most useful in the prophylaxis and treatment of rickets and osteomalacia?

- β
- A. Teriparatide
 - B. Calcitriol
 - C. Calcitonin
 - D. Parathyroid hormone
 - E. Prednisone
- w/ Aza
osteoporosis

26. Which of the following statements best describes the mechanism of action of insulin?

- A. Binds to an ion channel receptor to increase chloride influx
- B. Binds to a G-protein-linked receptor to increase cAMP
- ☒ C. Binds to a tyrosine kinase-linked receptor
- D. Binds to a nuclear receptor to increase protein synthesis
- E. Binds to a G-protein-linked receptor to decrease cAMP

27. 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.

- ~~A. Acarbose~~
- ~~B. Glyburide~~
- ☒ C. 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?

- A. Ethinyl estradiol
- B. Mestranol
- ☒ C. Clomiphene
- D. Levothyroxine
- E. Nandrolone

29. Effects of estrogens in hormone replacement therapy are most likely to include

- A. Reduction in breast cancer
- B. Reduction in body temperature
- C. Reduction in HDLs
- ~~D. Increased risk of osteoporosis~~
- ☒ E. Increased risk of thromboembolic disorders

30. Pharmacological effects of exogenous glucocorticoids are most likely to include

- A. Increased muscle mass
- B. Hypoglycemia
- C. Improved wound healing
- D. Increased excretion of sodium and water
- ☒ E. Inhibition of prostaglandin and leukotriene synthesis

✓ 31. Which of the following best describes the mechanism of action of dexamethasone?

- A
- ☒ A. ~~Enhances gene-expression and protein synthesis~~
 - ☐ B. Induces adenylyl cyclase
 - ☒ C. Inhibits adenylyl cyclase
 - ☐ D. ~~Stimulates a tyrosine kinase-linked receptor~~
 - ☐ E. Opens chloride channels

✓ 32. Which of the following combinations of drugs is most effective in the treatment of severe acute adrenal insufficiency?

- B
- ☒ A. Aldosterone and fludrocortisone
 - ☒ B. Cortisol and fludrocortisone
 - ☐ C. Dexamethasone and metyrapone
 - ☐ D. Flunisolide and dehydroepiandrosterone
 - ☐ E. Triamcinolone and dexamethasone

33. Therapy with which class of drugs results in the development of hypokalemia, hyperglycemia, hyperuricemia, and ototoxicity?

- D
- ☐ A. A xanthine diuretic
 - ☐ B. A potassium sparing diuretic
 - ☐ C. An osmotic diuretic
 - ☒ D. A loop diuretic
 - ☐ E. A thiazide diuretic

✓ 34. Characteristics of opioid antitussives include all of the following **EXCEPT**

- A
- ☒ A. ~~Stimulate the respiratory center~~
 - ☒ B. ~~Release histamine~~
 - ☒ C. ~~Are analgesic~~
 - ☐ D. ~~Depress the cough-reflex~~
 - ☐ E. Develop tolerance to their action on the cough reflex

35. All of the following antiseptics/disinfectants are correctly paired with the accompanying actions **EXCEPT**

- B
- ☐ A. Sodium hypochlorite-release of chlorine
 - ☒ B. Iodophors-rapidly release iodine
 - ☐ C. Surface active agents-effective against gram-positive organisms
 - ☐ D. Oxidizing agents-alter subgingival environment
 - ☐ E. 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**

- E
- 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
 - ☒ E. Prescriptions for Schedule IV drugs may routinely be refilled up to five times within a six month period

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

- D
- A. ~~A drug that is highly lipophilic~~
 - B. A drug with a low molecular weight
 - ☒ C. A drug which binds with high affinity to plasma proteins
 - D. 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?

- D
- 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

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

$$\begin{array}{r} 1 \times 15 \\ 2 \\ \hline 30 \\ 7 \\ \hline 210 \end{array}$$

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?

- ☐ A. Kaopectate
☐ B. Lactulose
☐ C. Atropine
☒ D. Loperamide
☐ E. Omeprazole

✓ 42. Which of the following statements about local anesthetics is true?

- ☐ A. Patients with liver cirrhosis have slower metabolism of tetracaine
☒ B. The ionic form of etidocaine is the active form at its site of action
☐ C. Lidocaine acts on the extracellular side of voltage-sensitive potassium channels
☒ D. Epinephrine is included in some local anesthetic preparations to counter their effects on the cardiovascular system
☐ E. Lidocaine causes vasoconstriction

✓ 43. Which of the following adverse reactions is most associated with levodopa therapy?

- ☐ A. Elevation of intraocular pressure
☒ B. Renal impairment
☐ C. Elevation in serum prolactin
☒ D. 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?

- ☐ A. 10-20 min
☐ B. 24 hr
☒ C. 30-90 min
☐ D. 2-4 hr
☐ E. 6-12 hr

45. Which of the following statements about cancer chemotherapy is most accurate?

- ☐ A. Single agents used once are an effective treatment
☐ B. Tumor cell regrowth exceeds tumor cell kill
☐ C. Normal cells are not affected during treatment
☒ D. Combination chemotherapy reduces the possibility of drug resistance
☐ E. Repetitive treatment destroys an equal number of cancer cells

✓ 46. No acute toxicity is most likely during treatment with

- B ?
- A. Alkylating agents
 - ☒ B. Antimetabolites
 - ~~C. Antiestrogens~~
 - D. 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?

- C
- A. Blocks muscarinic receptors on parietal cells
 - B. Blocks ATPase
 - ☒ C. 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
- A. Aluminum hydroxide
 - ☒ B. Sodium bicarbonate
 - C. Calcium carbonate
 - D. Basic aluminum carbonate
 - E. Magnesium hydroxide

49. Many antacids are marketed as combinations of magnesium and aluminum hydroxides because

- A
- ☒ A. 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

✓ 50. The drug of choice for the treatment of anaphylactic shock is

- B ?
- A. Isoproterenol
 - ☒ B. Epinephrine
 - ~~C. Diphenhydramine~~
 - D. Atropine
 - E. Ibuprofen

✓ 51. A psychotic individual taking haloperidol 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?

- ✓
- A. Propofol
 - ☒ B. Fentanyl
 - C. Flumazenil
 - D. Acetaminophen
 - ☒ E. 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
 - D. Valproic acid -
 - ☒ E. Lorazepam

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

- ✓
- A. Dynorphin
 - ☒ B. Beta-endorphin
 - C. Dronabinol
 - ☒ D. Met-enkephalin
 - ☒ E. 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
- ☒ A. Ethanol
 - B. Methylphenidate
 - C. Lithium
 - D. Lysergic acid diethylamine
 - E. Ginseng

55. An overdose of aspirin is most likely to produce

- C
- A. Hypoglycemic coma
 - B. Constipation and mydriasis
 - ☒ C. Tinnitus and metabolic acidosis
 - D. Hypertensive crises
 - E. Delayed hepatotoxicity

56. An overdose of iron is best treated by administration of

- A. Pralidoxine
B. Deferoxamine
C. Naloxone
D. Atropine
E. Flumazenil

57. An overdose of organophosphate insecticide is best treated by administration of

- A. Flumazenil
B. Physostigmine
C. Naloxone
D. Epinephrine
E. Pralidoxime

58. An elderly patient suffering from loss of renal function becomes anemic. Examination of the patient's red cells shows they are normal in shape and color. Which of the following drugs would be most useful in treating this type of anemia?

- A. Deferoxamine
B. Erythropoietin
C. Ferrous sulfate
D. Folic acid
E. Vitamin B12

59. A hospitalized patient develops an infection caused by methicillin-resistant staphylococcus aureus. The infection is also resistant to vancomycin. Which of the following antibiotics is most useful for treating the infection?

- A. Azithromycin
B. Erythromycin
C. Isoniazid
D. Linezolid
E. Streptomycin

60. Isoniazid acts to kill *Mycobacterium tuberculosis* by which of the following mechanisms?

- A. Interfering with pyridoxine-dependent reactions
B. Interfering with bacterial cell-wall synthesis
C. Inhibiting DNA-dependent RNA polymerase
D. Altering membrane permeability
E. Inhibiting 30S ribosome function

61. Which of the following drugs is used in combination with various penicillins to inhibit beta-lactamase activity?

- B
- A. Cilastatin
 - ☒ B. Clavulanic acid
 - C. Imipenem
 - D. Probenecid
 - E. Procaine

62. Which of the following antibiotic combinations is most likely to be antagonistic, and not beneficial to the patient?

- ▽
- A. Rifampin + Isoniazid
 - B. Rifampin + Erythromycin
 - C. Penicillin + Aminoglycoside
 - ☒ D. Penicillin + Tetracycline
 - E. Trimethoprim + Sulfamethoxazole

63. Which of the following antibiotics is most likely to be used topically?

- ▽
- A. Ciprofloxacin
 - B. Erythromycin
 - C. Isoniazid
 - ☒ D. Polymyxin
 - E. Trimethoprim

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

- A
- ☒ A. Pharmacological antagonism
 - B. Functional antagonism
 - C. Chemical antagonism
 - D. Synergism
 - E. Additivity

✓ 65. 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?

- B
- ~~A. Lidocaine~~
 - ☒ B. Procainamide
 - C. Quinidine
 - D. Disopyramide
 - E. Flecainide

✓ 66. Which of the following drugs increases lipoprotein lipase activity, thus lowering VLDL levels?

- B
- A. Atorvastatin
 - ☒ B. Gemfibrozil
 - C. Ezetimibe
 - ☒ D. Niacin
 - E. Colestipol

cholesterol
DORA

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?

- D
- A. DNA synthesis
 - B. Protein translation
 - C. Intracellular transport
 - ☒ D. Bcr-Abl tyrosine kinase
 - E. Lipid metabolism

69. Baclofen is equally effective as diazepam in reducing muscle spasticity, and has the therapeutic advantage of

- D
- A. Producing less gastrointestinal disturbance
 - B. Requiring less frequent administration
 - C. Causing less running nose
 - ☒ D. Producing less sedation
 - E. Causing less malignant hyperthermia

✓ 70. Which of the following vitamins is essential for the synthesis of several clotting factors?

- D
- A. Vitamin A
 - B. Vitamin B1
 - C. Vitamin E
 - ☒ D. Vitamin K
 - E. Vitamin M

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?

- L
- A. Caspofungin
 - B. Terbinafine
 - ☒ C. Miconazole
 - D. Flucytosine
 - E. Griseofulvin

74. Use of which of the following drugs is most associated with nephrotoxicity?

- A
- ☒ 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?

- A*
- A. Tachycardia*
 - B. Hypotension
 - C. Hypoglycemia
 - D. Hypothermia
 - E. Hypercholesterolemia

78. Which of the following best describes the adverse reaction profile of propylthiouracil?

- D*
- 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?

- D*
- 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
- ☒ 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?

- B
- ☐ 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?

- D
- ☐ 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?

- C
- ☐ A. Doxazosin
 - ☐ B. Nandrolone
 - ☒ C. Sildenafil
 - ☐ D. Oxybutynin
 - ☐ E. Megestrol

85. Toxic effects of long term administration of prednisolone are most likely to include

- C
- ☐ 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

- E
- A. Hypoglycemia
 - B. Elevation of plasma lipids
 - C. Hypernatremia
 - D. Hypercalcemia
 - E. Hypokalemia

87. Which of the following drugs is most useful in the treatment of acetaminophen overdose?

- B
- A. Guaifenesin
 - B. Acetylcysteine
 - C. Potassium iodide
 - D. Ipecac
 - E. Terpin hydrate

88. Basic mechanisms of action of local anti-infectives include

- D
- A. Osmotic disruption of the cell
 - B. Denaturation of cellular protein
 - C. Interference with metabolic processes
 - D. All of the above

89. Which of the following would **LEAST** characterized alcohols?

- C
- A. Are bactericidal
 - B. Are rapidly-acting
 - C. Are effective antivirals
 - D. Denature protein
 - E. Are highly volatile

90. All of the following statements about anticaries approaches in humans are true **EXCEPT**

- C
- A. There is a direct relationship between fluoride concentration in drinking water and anticaries protection
 - B. There is a direct relationship between fluoride concentration in drinking water and the occurrence of enamel fluorosis
 - C. The mechanism of fluoride action deals with the formation of more soluble fluorapatite from the less soluble hydroxyapatite
 - D. 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?

- E*
- A. Bran
 - B. Magnesium citrate
 - C. Mineral oil
 - D. Psyllium hydrophilic muciloid (Metamucil)
 - E* E. Castor 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?

- A*
- A* A. Atropine
 - B. Codeine
 - C* C. Diphenoxylate
 - D. Morphine
 - E. Loperamide
- Ao C*

93. The antianginal effect of beta adrenoceptor blockers is attributed to

- C*
- A. Increased heart rate
 - B. Increased cardiac contractility
 - C* 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

- B*
- A. Naloxone
 - B* B. Flumazenil
 - C. Sodium bicarbonate
 - D. Atropine
 - E. Pralidoxime

95. The formation of oral and gastrointestinal ulcers is a side effect of treatment with

- C*
- ~~A. Cytarabine~~ *Chemo*
 - ~~B. Docetaxel~~
 - C* ~~C. Methotrexate~~
 - D. 6-Thioguanine
 - ~~E. Tamoxifen~~ *Breast cancer*

96. Which one of the following drugs is most likely to prevent NSAID-induced ulcers by stimulating secretion of mucus by the gastric mucosa?

- D
- A. Ranitidine
 - B. Sucralfate
 - C. Bismuth subsalicylate
 - ☒ D. Misoprostol
 - E. Esomeprazole

97. Which one of the following drugs is a centrally acting alpha-2 adrenoceptor agonist, producing dry mouth, drowsiness and bradycardia?

- E
- A. Guanethidine
 - B. ~~Prazosin~~
 - C. Mirtazapine
 - ☒ D. ~~Terbutaline~~
 - E. Clonidine

98. Which one of the following drugs is most useful in treating the manic phase of bipolar depression when lithium is contraindicated?

- B
- ☒ A. Amitriptyline
 - ☒ B. Sodium valproate
 - C. Fluoxetine
 - ☒ D. Phenobarbital
 - E. ~~Ethosuximide~~

99. Physiological changes in elderly patients, compared to young adults, which must be considered in drug administration include all of the following **EXCEPT**

- B
- A. Increase in body fat
 - B. Increase in blood volume
 - C. Decrease in cardiac output
 - D. Decrease in kidney function
 - ☒ E. Decrease in plasma proteins

100. Which of the following opioid analgesics has the longest half-life when administered chronically?

- E
- ☒ A. Hydromorphone
 - ☒ B. Oxycodone
 - C. Fentanyl
 - D. Morphine
 - E. Methadone

END OF EXAM