

**Final Exam of Pharmacology for 7-YMS- 2002 (A)**  
**2005-05-12**

**PART I Choice Questions (80 points)**

**Type A** (only one answer is correct)

1. The pH in the intra- and extra-membrane fluid response to drug distribution, because pH changes the drug's
  - A. pKa
  - B. lipid-solubility
  - C. degree of dissociation
  - D. hydrolysis
  - E. dissolubility
2. The half-life of a drug is 2 hours, how many is the  $k_e$ ?
  - A.  $0.1(\text{h}^{-1})$
  - B.  $0.2(\text{h}^{-1})$
  - C.  $0.3(\text{h}^{-1})$
  - D.  $0.35(\text{h}^{-1})$
  - E.  $2(\text{h}^{-1})$
3. The half-life time is
  - A. the time that the concentration of the drug in plasma decline 50%
  - B. the time that the amount of the drug in the body decline 50%
  - C. the time that the amount of the drug in the body are metabolized by half
  - D. the time that the effect of the drug declining by half
  - E. all of above are wrong
4. The  $\beta$ -blocker that is usually used in treating glaucoma is
  - A. propranolol
  - B. pindolol
  - C. atenolol
  - D. timolol
  - E. metoprolol
5. Which of the following drugs is applicable to treat nervous shock?
  - A. isoproterenol
  - B. adrenaline
  - C. norepinephrine
  - D. phenoxybenzamine
  - E. atropine
6. All of the following statements about the action of d-tubocurarine are true except
  - A. blocking ganglion
  - B. promoting the release of histamine
  - C. relaxing respiratory muscle
  - D. stimulating CNS
  - E. blocking  $N_2$ -receptors
7. Which of the following drugs can increase the renal blood flow
  - A. ephedrine

- B. norepinephrine
  - C. dopamine
  - D. adrenaline
  - E. phenylephrine
8. After use of phentolamine, the influence of adrenaline on the blood pressure is
- A. first up, then down
  - B. up only
  - C. down only
  - D. first down, then up
  - E. the same as before
9. Which of the following condition would atropine most likely be contraindicated in ?
- A. intestinal spasm
  - B. sialorrhea
  - C. infective intoxication shock
  - D. glaucoma
  - E. organophosphates intoxication
10. Chlorpromazine turning up the action of boosting blood pressure of adrenaline is because
- A. it blockes the M receptors
  - B. it blockes the  $\beta$  receptors
  - C. it blockes the  $\alpha$  receptors
  - D. it stimulates the  $\beta_2$  receptors
  - E. it stimulates the DA receptors
11. Which of the following drugs might result from hepatic necrosis when overdose?
- A. ibuprofen
  - B. acetaminophen
  - C. celecoxib
  - D. aspirin
  - E. indomethacin
12. To treat cardiac asthma, we should select
- A. isoprenaline
  - B. adrenaline
  - C. pethidine
  - D. hydrocortisone
  - E. ephedrine
13. When phenobarbital poisoning, in order to decline toxicity and promote toxic substance excretion, we should
- A. application of acid drug, to decrease the pH of plasma and urine
  - B. application of basic drug, to enhance the pH of plasma and urine
  - C. intravenous infusion of hypoelement dextran
  - D. administration of normal saline solution
  - E. intravenously administration of 10% glucose

14. Aspirin leading to blood clotting disturbance is due to
- inhibiting platelet aggregation
  - inhibiting thrombogen synthesis
  - activating fibrin degradation system
  - Inactivating plasma coagulation factor
  - all of about are not true
15. All of the following untoward reactions about chlorpromazine are true, EXCEPT
- drug mouth, constipation
  - orthostatic hypotension
  - drowsiness
  - tolerance and addiction
  - breast swelling and lactation
16. The drug of first choice to treat trigeminal neuralgia is
- phenytoin sodium
  - carbamazepine
  - phenobarbital
  - ethosuximide
  - primidone
17. Which of the following drug is effective for various epilepsy?
- phenobarbital
  - phenytoin sodium
  - valproate sodium
  - ethosuximide
  - diazepam
18. Which of the following statement about analgesia of morphine is incorrect?
- Analgesic effect is strong
  - It can be used for various pain
  - It is more effective for continuous dull pain than that of sharp intermittent pain
  - It is less effective for continuous dull pain than that of sharp intermittent pain
  - It can eliminate the emotion reaction caused by pain
19. All of the following actions concerning chlorpromazine are true, EXCEPT
- sedative action
  - antipsychotic action
  - depression of temperature
  - blocking of DA receptors
  - blocking of  $\alpha$ -receptors
20. Which of the following analgesic drugs can be used for artificial hibernation
- pethidine
  - morphine
  - anadol
  - methadone
  - fentanyl

21. The drug of first choice to treat grand mal epilepsy is
- A. phenytoin sodium
  - B. ethosuximide
  - C. diazepam
  - D. sodium valproate
  - E. carbamazepine
22. Which of the following drugs could result in thyroidism or hypothyroidism?
- A. propafenone
  - B. propranolol
  - C. verapamil
  - D. amiodarone
  - E. lidocaine
23. Which of the following drugs can block  $\alpha_1$  receptor selectively and be well effective for chronic congestive heart failure caused by ischemic heart disease?
- A. yohimbine
  - B. phentolamine
  - C. prazosin
  - D. captopril
  - E. propranolol
24. Which of the following drugs is most suitable in treating exertional angina pectoris with hypertension and tachyarrhythmia?
- A. sodium nitroprusside
  - B. propranolol
  - C. isosorbide dinitrate
  - D. pentaerythrityl tetranitrate
  - E. nifedipine
25. The serious untoward reaction of reserpine is
- A. orthostatic hypotension
  - B. induction of depression
  - C. increase of release of gastric acid
  - D. drowsiness and distraction
  - E. nasal tampon bradycardia
26. The drug that can be used for hypertensive crisis and could cause thiocyanate poisoning for the patient with renal failure is
- A. sodium nitroprusside
  - B. minoxidil
  - C. diazoxide
  - D. hydralazine
  - E. reserpine
27. The drug that can inhibit angiotensin I converting enzyme and can be used to treat obstinate cardiac insufficiency is
- A. captopril
  - B. prazosin
  - C. digoxin
  - D. amrinone

- E. amiodarone
28. All of the following statements concerning nifedipine are true EXCEPT that
- A. It promotes the atrioventricular conduction
  - B. It reduces the myocardial contractility
  - C. It is commonly used in treating hypertension
  - D. It is absorbed rapidly after oral administration
  - E. It can increase the renin's activity
29. The mechanism of antihypertension of losartan is
- A. decrement of renin activity
  - B. inhibition of angiotensin converting enzyme
  - C. blocking of the angiotensin II receptors
  - D. increment of kinin synthesis
  - E. causing vasodilation directly
30. The rapid arrhythmia caused by cardiac glycoside poisoning is due to
- A. Overhigh intracellular  $\text{Ca}^{2+}$  concentration of heart muscle
  - B. Overhigh intracellular  $\text{Na}^{+}$  concentration of heart muscle
  - C. Overhigh intracellular  $\text{K}^{+}$  concentration of heart muscle
  - D. Overlow intracellular  $\text{K}^{+}$  concentration of heart muscle
  - E. Overlow intracellular  $\text{Na}^{+}$  concentration of heart muscle
31. All of the following statements are wrong about cardiac glycoside of therapeutic dose influencing on electrocardiogram EXCEPT THAT:
- A. The ST-segment declines
  - B. The ST-segment rises
  - C. The P-R interval shortens
  - D. The P-Q interval shortens
  - E. The Q-T interval prolongs
32. The contraindication of nitroglycerin is
- A. arrhythmia
  - B. chronic congestive heart failure
  - C. acute myocardial infarction
  - D. acute myocardial infarction
  - E. hypertension
33. The drug that blocks  $\alpha$  and  $\beta$  receptor is :
- A. propranolol
  - B. labetalol
  - C. pindolol
  - D. timolol
  - E. nifedipine
34. The drug that can cause lupus-like erythematosus syndrome is :
- A. reserpine
  - B. hydralazine
  - C. prazosin
  - D. clonidine
  - E.  $\alpha$ -methyldopa
35. The indication of quinidine is:
- A. atrial fibrillation

- B. ventricular tachycardiac
  - C. variant angina pectoris
  - D. hypentension
  - E. atrioventricular block
36. Which of the following drugs can be used to treat cretinism
- A. methylthiouracil
  - B. propylthiouracil
  - C. methimazole (tapazole)
  - D. carbimazole
  - E. thyroxin
37. Which of the following drugs can inhibit  $H^+ - K^+$  ATPase, and decrease the secretion of gastric acid
- A. ramitidine
  - B. cimetidine
  - C. pirenzepine
  - D. omeprazol
  - E. sucralfate
38. All of the following are indications of glucocorticoids EXCEPT
- A. rheumatic arthritis
  - B. bronchial asthma
  - C. peptic ulcer
  - D. endotoxic shock
  - E. aplastic anemia
39. To Which of the following diseases promethazine hardly has any effects
- A. anaphylatic shock
  - B. urticaria
  - C. motion sickness
  - D. morning sickness
  - E. anaphylatic rhinitis
40. All of the following are true of hydrochlorothiazide EXCEPT
- A. It can increase renal blood flow and glomerular filtration rate
  - B. It can decrease renal blood flow and glomerular filtration rate
  - C. It can increase the secretion of  $K^+$  then cause hypokalemia
  - D. It decrease blood pressure mildly
  - E. It can decrease the urinary output of diabetes insipidus patients.
41. Which agent is used to treat bleeding caused by fibrinolysis
- A. VitK
  - B. Heparin
  - C. Dicoumarol
  - D. Aminocaproic acid
  - E. Acenocoumarol
42. Which of the following drugs can block gastrin receptors, decrease the secretion of gastric acid

- A. sucralfate
  - B. proglumide
  - C. omeprazole
  - D. pirenzepine
  - E. cimetidine
43. Which of the following statements about heparin is TRUE:
- A. Mild anticoagulative effect
  - B. Slow onsetting of effect
  - C. No anticoagulative effect in vitro
  - D. Possessing anticoagulative effect in vitro
  - E. It can be administrated orally
44. All of the following are true of streptokinase EXCEPT:
- A. It is a kind of enzyme extracted from the culture fluid of  $\beta$ -hemolytic streptococci
  - B. Forming complex with plasminogen, activating plasmin indirectly
  - C. Possessing allitigenicity, inducing an allergic reaction even allergic shock
  - D. It is used to prevent the expansion and formation of thrombosis
  - E. It is used to dissolve thrombosis, and treat thromboembolism
45. Which is the best scheme for treatment of macrocytic anemia
- A. Folic acid
  - B. Folic acid plus ferrons sulfate
  - C. Vit B<sub>12</sub> + folic acid + vitB<sub>6</sub>
  - D. Folic acid plus Vit B<sub>12</sub>
  - E. Vit B<sub>12</sub> + folic acid + vit B<sub>6</sub> + vit C
46. Which of the following mechanisms best accounts for the decreasing blood sugar effect of glibenclamide
- A. Stimulating  $\beta$ -cell in pancreatic island directly, promoting the release of insulin
  - B. Inhibit the activity of  $\alpha$ -glycosidase
  - C. Decreasing the absorption of glucose
  - D. Increase the sensitivity of insulin to target organism
  - E. Directly activating insulin-receptors
47. All of the following statements about cephalosporins are true EXCEPT:
- A. Its antibacterial potency against gram-positive bacteria is ranked as first-generation cephalosporins < second-generation < third-generation
  - B. Its antibacterial potency against gram-negative bacteria is ranked as first-generation < second generation < third generation
  - C. Its antibacterial mechanisms are similar with that of penicillin
  - D. High-resistance to  $\beta$ -lactamases
  - E. Most of the third-generation cephalosporins can permeate into blood-brain barrier
48. Which of the following drugs is the best in treating lymphocytic

- leukemias in children?
- A. 5-FU
  - B. HU
  - C. Busulfan
  - D. DDP
  - E. 6-MP
49. Which is a cell cycle specific agent
- A. CTX
  - B. DDP
  - C. BLM
  - D. ADM
  - E. VCR
50. All of the following statements about rifampin is true EXCEPT:
- A. Its antibacterial spectrum is broad
  - B. Its antibacterial spectrum is narrow
  - C. It is absorbed rapidly in gastrointestinal tract
  - D. It can penetrate efficiently into the cerebrospinal fluid
  - E. It can penetrate into cell wall of bacillus tubercle, exerting bactericidal effect
51. All of the following statements about the streptomycin are true EXCEPT
- A. It can only inhibit bacillus tubercle, can't eliminate it
  - B. It can hardly penetrate into cells
  - C. It can easily penetrate blood-brain barrier
  - D. It possesses ototoxicity
  - E. It can be used together with tetracycline to treat infections caused by brucella species
52. Which of the following drugs is the first choice in treating trichomonas vaginatis?
- A. Metronidazole
  - B. Chloroquine
  - C. diloxanide
  - D. emetine
  - E. Chiniofon
53. Which of the following drugs possesses powerful bactericidal effect toward anaerobe?
- A. Penicillin G
  - B. Cephalothin
  - C. Metronidazole
  - D. Farazolidonl
  - E. Polymycin
54. Which of the following drugs is the first choice in treating mycoplasma pneumonia?
- A. tetracycline



- B. azithromycin
  - C. gendamycin
  - D. cefuroxime
  - E. kanamycin
55. Which of the statements about thioreas is wrong
- A. They are used in patients with hyperthyroidism
  - B. They inhibit release of thyroid T<sub>3</sub> and T<sub>4</sub>
  - C. They have immunosuppressive effect
  - D. Propylthiouraciol stimulates T<sub>4</sub> to transform to T<sub>3</sub>
  - E They can cause thyroid enlargement when long term used
56. PA<sub>2</sub> is called
- A therapeutic index
  - B. affinity index
  - C. elimination rate constant
  - D. antagonist parameter
  - E. dissociation constant
57. L-dopa can be used to treat patients with depression
- A. insomnia
  - B. anxiety
  - C. Parkinson's disease
  - D. Schizophrenia
58. Atropine can not be used to treat patients with
- A. bradycardia
  - B. glaucoma
  - C. infectious shock
  - D. neostigmine overdose
  - E. intoxication of organophosphate
59. Extrapyramidal symptoms caused by chlorpromazine is due to
- A. blocking DA receptor in mid-brain-limbic system
  - B. inhibiting alpha-receptor in brain
  - C. inhibiting DA receptor in tuberoinfundibular pathway
  - D. inhibiting M-receptor in CNS
  - E. blocking DA receptor in nigrostriatal pathway
60. Morphine can not produce
- A. analgesic effect
  - B. euphoria
  - C. dilation of blood vessel
  - D. respiratory depression
  - E. antiemetic effect
61. Which of the following drugs is not effective in patients with rheumatic arthritis
- A. aspirin
  - B. sodium salicylate
  - C. phenylbutazone

- D. acetaminophen (or paracetamol)
  - E. indomethacin
62. The effects of NSAIDs are mainly due to inhibiting
- A. 5-lipoxygenase
  - B. peroxidase
  - C. cyclooxygenase
  - D. phospholipase A<sub>2</sub>
  - E. TXA<sub>2</sub> synthetase
63. The patients with bronchial asthma can be given EXCEPT
- A. adrenaline
  - B. salbutamol
  - C. prednisone
  - D. propranolol
  - E. ephedrine
64. Which of the following diseases is the indication of glucocorticoids?
- A. psychosis
  - B. fulminant epidemic cerebrospinal meningitis
  - C. diabetes mellitus
  - D. severe hypertension
  - E. chickenpox
65. The main reason for the combination use of levodopa with carbidopa is
- A. to increase the absorption of levodopa
  - B. to inhibit levodopa decarboxylation in the periphery
  - C. to inhibit MAO
  - D. to inhibit COMT
  - E. to increase L-dopa converting to dopamine directly
66. A patient with pernicious anemia must be given
- A. erythropoietin
  - B. folic acid
  - C. iron dextran
  - D. vitamin B<sub>6</sub>
  - E. vitamin B<sub>12</sub>
67. The drug useful in preventing asthma but lacking bronchodilator action is
- A. cromolyn sodium
  - B. ephedrine
  - C. isoprenaline
  - D. labetalol
  - E. metoprolol
68. A drug that consistently decreases the heart rate and can cause vasospastic angina attacks is
- A. isosorbide dinitrate
  - B. nifedipine
  - C. nitroglycerin
  - D. propranolol

- E. verapamil
69. The drug used in asthma that often cause insomnia is
- beclomethasone
  - cromolyn sodium
  - ipratropium
  - salbutamol
  - ephedrine
70. Which of the following statements about famotidine is wrong?
- It is a H<sub>2</sub> receptor agonist
  - It is used in the patient with peptic ulcer
  - It is little effect on heart and blood pressure
  - Its untoward effects are diarrhea,nausea,rash and blood dyscrasias
  - It can inhibit immune system
71. Which drug can inhibit  $\alpha$  -glycosidase
- gliclazide
  - acarbose
  - glipizide
  - fliquidon
  - metformin
72. Which of the following drugs is an antioxidant
- simvastatin
  - probucol
  - prostigmine
  - cholestyramine
  - benzafibrete
73. The drug that can induce disulfiram-like reactions is
- metronidazole
  - sulfadiazine
  - ciprofloxacin
  - clindamycin
  - azithromycin
74. Ke is called
- therapeutic index
  - affinity index
  - antagonist index
  - elimination rate constant
  - dissociation constant
75. Which of the following drugs acts on  $\alpha_2$  receptor of presynaptic membrane
- Ach
  - cocaine
  - norepinephrine
  - DA
  - yohimbine
76. The drug that has potent antipsychotic effect, but no extrapyramidal reactions is
- clozapine
  - tardan
  - perphenazine
  - haloperidol
  - chlorpromazine
77. Which of the following drugs can inhibit  $\alpha$  -glycosidase
- gliclazide
  - acarbose
  - glipizide
  - gliquidon
  - metformin
78. Hydrochlorothiazide can be used in the following indications EXCEPT
- chronic edema
  - heart failure
  - hypertension

- D. diabetes insipidus    E. hyperuricemia
79. The drug with significant efficacy against motion sickness is  
 A. cimetidine    B. diphenhydramine    C. terfenadine  
 D. ranitidine    E. nizatidine
80. Drug that can be used to treat impotence  
 A. prazosin  
 B. regitine  
 C. yohimbine  
 D. phenoxybenzamine  
 E. terazosin

Type X

- 81..Which of the drugs can be used in treatment of CHF?  
 A . sodium nitroprusside    B. prazosin  
 C. verapamil    D. phentolamine    E. adrenaline
82. What can be used in surface anesthesia  
 A. Procaine  
 B. Lidocaine  
 C. Tetracaine  
 D. Bupivacaine  
 E. Cocaine
83. Which of the following drugs is the choice in treating infections caused by streptomycin-resistant gram-negative bacteria?  
 A. Tobramycin    B. Gentamicin  
 C. Amikacin    D. Erythromycin    E. vancomycin
84. A young woman suffering from urinary infection caused by a G<sup>-</sup> bacillus can be given  
 A. penicillin G    B. SIZ    C. gentamicin  
 D. pipemidic acid    E. erythromycin
85. Metronidazole can be used in treatment of  
 A. acute amebic dysentery    B .tetanus  
 C. anthrax    D. trichomoniasis  
 E. tuberculosis
86. Glucocorticoids can be given the patient with  
 A. chickenpox    B. intoxicant shock    C. psychosis  
 D. peptic ulcer    E. asthma
87. Omeprazole  
 A. can inhibit the last step for secretion of H<sup>+</sup> in the parietal cell  
 B. is the most powerful inhibitor of gastric acid excretion up-to-date  
 C. can stimulate G cell secreting gastrin  
 D. can inhibit the function of H<sup>+</sup> pump  
 E. can improve the symptom of the patients with Zollinger-Ellison syndrome(胃

泌素瘤)

88. Drugs that are effective for *Pseudomonas aeruginosa* (绿脓杆菌) are  
A. carbencillin    B. cefazolin  
C. netilmicin    D. ciprofloxacin    E. sulfamylon
89. Drugs that can cause peripheral neuritis are  
A. isoniazid    B. griseoflavin    C. nitrofurandoin    D. tetracycline  
E. amikacin
90. Erythromycin can be used for patients with  
A. mycoplasmal pneumonia    B. Legioner,s disease    C. GI paralysis  
D. typhoid    E. whooping cough
91. Furosemide can cause  
A. ototoxicity    B. hyperuricemia    C. hyperchloremia  
D. hypokalcemia    E. hypoazotemia
92. Thiazide diuretics can be used in  
A. hypertension    B. heart failure    C. hypercalcemia  
D. glaucoma    E. diabetes insipidus
93. Phenytoin can induce  
A. sedative effect    B. antiepileptic effect    C. gingival hyperplasia  
D. increase in metabolism    E. relieve inflammation
94. Procaine  
A. is a local anaesthetic    B. is eliminated with zero-order kinetic  
C. affects the antibiotic effects of sulfonamides  
D. can cause anaphylaxis    E. its absorption is affected by humeral pH
95. The adverse reactions caused by aminoglycosides include  
A. neuromuscular blockade  
B. allergic reaction  
C. inducing dizziness  
D. inducing deafness  
E. inducing proteinuria
96. Drugs that can cause neuritis are  
A. isoniazid  
B. griseoflavin  
C. nitrofurantion  
D. tetracycline  
E. ethambutol
97. Furosemide can cause  
A. ototoxicity  
B. hyperuricemia  
C. hyperchloremia  
D. hypokalcemia  
E. hypomagnesemia
98. Drugs that can treat prostatic hypertrophy  
A. prazosin  
B. Yohimbine

- C. Phenoxybenzamine
  - D. Terazosin
  - E. Doxazosin
99. Drugs are useful in treating glaucoma
- A. propranolol
  - B. timolol
  - C. pilocarpine
  - D. physostigmine
  - E. homatropine
100. Drugs can be used in treating thyroidism
- A. propranolol
  - B. pindolol
  - C. metronidazole
  - D. iodide
  - E. propylthiouracil

**part II Questions (20points)**

1. Please describe the pharmacological actions of morphine.
2. Please describe the adverse reactions of glucocorticoids.
3. Please describe the clinical uses of  $\beta$ -receptor antagonists.
4. Please describe the mechanisms of adrenaline in treatment of allergic shock.

**part III Questions for yourself choice (15 points)**

1. Is the passive (simple diffusion) reabsorption of drug in proximal convoluted tubule or distal convoluted tubule? Why?
2. Why are the athletes banned from using agonists and antagonists of  $\beta$  receptor in competition?
3. Please describe the alteration of drug effects on alcoholist, and why?