

山东大学试题  
FINAL EXAM OF PHARMACOLOGY FOR EM-98 (A)  
2002-01-30

**PART I CHOICE QUESTIONS (30 points)**

**TYPE A**

1. Which of the following statements is true concerning the drug's binding with plasma protein?
  - A. The higher the binding rate, the stronger the curative effect.
  - B. The lower the binding rate, the stronger the curative effect.
  - C. The lower the binding rate, the weaker the curative effect.
  - D. No relationship between binding rate and curative Effect.
  - E. The higher the binding rate, the faster the excretion.
2. The drugs that can pass across the blood-brain barrier are
  - A. Small molecule and ionized drugs.
  - B. Small in molecular weight and no-ionized drugs.
  - C. Large in molecular weight and ionized drugs.
  - D. Large in molecular weight and no-ionized drugs.
  - E. All of above are not true.
3. Which of the following statements about individual variation is true ?
  - A. Administration of different dose to individuals.
  - B. In the case of equal dose, the difference of curative effect between individuals.
  - C. The difference of curative effect between individuals.
  - D. The untoward reaction is different in different individuals.
  - E. All of above are not true.
4. The half-life time is
  - A. The time that the concentration in plasma of the drug declines 50%.
  - B. The time that the amount of the drug in the body declines 50%.
  - C. The time that the amount of the drug are metabolized by half in the body.
  - D. The time that the effect of the drug declines a half.
  - E. All of above are wrong.
5. The clinical use of physostigmine is
  - A. glaucoma.
  - B. myasthenia gravis.
  - C. organophosphates intoxication.

- D. stimulate awakening after Chinese herbs anesthesia.  
E. funds examination.
6. The mechanism of pilocarpine in treating glaucoma is
- A. stimulation of M-R on iris sphincter.
  - B. stimulation of  $\alpha$ -R on iris sphincter.
  - C. stimulation of M-R on ciliary muscle.
  - D. stimulation of  $\alpha$ -R on ciliary muscle.
  - E. stimulation of  $\alpha$ -R on muscular dilator.
7. Propantheline would most likely be used to treat
- A. hypertension.
  - B. bronchial asthma
  - C. peptic ulceration.
  - D. respiratory failure.
  - E. antishock.
8. The most serious untoward reaction of norepinephrine in treating shock is
- A. renal failure.
  - B. hepatic necrosis.
  - C. unable to increase pressure.
  - D. respiratory failure.
  - E. All of above are wrong.
9. Which of the following drugs is the drug choice for allergic shock ?
- A. Isoprenaline
  - B. Adrenaline
  - C. Norepinephrine
  - D. Phenoxybenzamine
  - E. Atropine
10. Gastric ulceration by long-term use of aspirin is due to
- A. direct irritation of gastric mucosa.
  - B. inhibition of PG synthesis.
  - C. increase of gastric acid release.
  - D. increase of pepsin release.
  - E. A+B.
11. Which of the following drugs can be given for the treatment of hypotention caused by chlorpromazine ?
- A. Adrenaline
  - B. Noradrenaline
  - C. Isoprenaline
  - D. Dopamine
  - E. Atropine

12. When an epilepsy patient treated with the phenytoin sodium for a long time is suffering from megaloblastic anemia, this is due to
- inhibiting folic acid absorption.
  - inhibiting dihydrofolate synthetase.
  - inhibiting dihydrofolate reductase.
  - the folic acid metabolite fast.
  - inhibiting protein synthesis.
13. All of the following statements concerning the pharmacological actions of pethidine are true EXCEPT
- the analgesic action is weaker than that of morphine.
  - the effect of respiratory inhibition is stronger than that of morphine.
  - does not lead to constipation.
  - has no antioxytocin effect.
  - might result in orthostatic hypotension in therapeutic dose
14. When phenobarbital poisoning, in order to decline toxicity and promote toxic substance excretion, what should we do ?
- using acidic drug to decrease the pH of plasma and urine.
  - using of basic drug to enhance the pH of plasma and urine.
  - intravenous infusion of hypoelement dextran.
  - administration of normal saline solution.
  - intravenous administration of 10% glucose.
15. The patient with hypertension accompanied with peptic ulcer should take
- reserpine
  - clonidine
  - hydralazine
  - verapamil
  - prazosin
16. The most treatment for paroxysmal supraventricular tachycardia is
- verapamil
  - quinidine
  - lidocaine
  - procainamide
  - phenytoin sodium
17. Which of the following agents is the drug choice for ventricular arrhythmia caused by cardiac glycoside ?
- lidocaine
  - amiodarone
  - propranolol
  - phenytoin sodium
  - quinidine
18. Which of the following calcium channel blockers is used to treat the cerebral angiospasm ?
- nifedipine
  - amlodipine
  - nimodipine
  - nitrendipine
  - verapamil
19. All of the following statements concerning verapamil are wrong EXCEPT that
- the bioavailability of oral administration is high.
  - it can be used to treat cardiac glycoside intoxication.
  - it can decrease heart rate and delay atrioventricular conduction.

- D. it can contract blood vessel and decrease coronary blood flow.  
 E. it can increase the myocardial contractility.
20. Which of the following action mechanisms is best accounted for the diuretic effect of spironolactone ?
- A. inhibition of the active reabsorption of  $\text{Na}^+$  and  $\text{Cl}^-$  in cortex portions of thick ascending limb of Henle loop.  
 B. competing aldosterone receptors, inhibition of the secretion of  $\text{K}^+$  and absorption of  $\text{Na}^+$ .  
 C. inhibition of carbonic anhydrase and decrease the exchange of  $\text{H}^+$ -  $\text{Na}^+$ .  
 D. reduction of glomerular filtration rate.  
 E. increase of the secretion of  $\text{Ca}^{2+}$  in distal convoluted tubule.
21. When primaquine is used to malaria on patients with deficiency of glucose-6-phosphate dehydrogenase it can cause
- A. aplastic anemia                      B. hemolytic anemia  
 C. iron deficiency anemia            D. shock  
 E. convulsion
22. Which of the following mechanisms is best account for the anticoagulant effect of heparin ?
- A. binding with antithrombin III, acceleration of the inactivation of coagulative factors consequentially.  
 B. interference with the utilization of vitamin k.  
 C. inhibition of the platelet aggregation.  
 D. inhibition of the thrombin activity.  
 E. Antagonism of thrombin effect.
23. Which of the following mechanisms best accounts for the development of bacteria's resistance towards aminoglycosides antibiotics ?
- A. The bacteria has produced inactivated enzyme.  
 B. The permeability of the cell membrane bacteria has changed.  
 C. The bacteria has produced much PABA.  
 D. The bacteria have produced hydrolase  
 E. The metabolism pathway of the bacteria has changed.
24. Which of the following drugs is the drug choice for treatment of osteomyelitis caused by  $\text{G}^+$  bacteria ?
- A. Penicillin                      B. Polymyxin B  
 C. Chloramphenicol            D. Lincomycin  
 E. Medemycin
25. The drug choice for the treatment of typhoid-paratyphoid is
- A. streptomycin            B. tetracycline  
 C. gentamicin              D. polymyxin B.            E. erythromycin

26. The drug choice for the treatment of epidemic cerebrospinal meningitis is  
 A. SIZ    B. SD    C. SMZ  
 D. Ciprofloxacin    E. tetracycline
27. Which of the following drugs is the drug choice for the treatment of porrigo furfurans ?  
 A. griseofulvin    B. nystatin    C. amphotericin B    A  
 D. fluconazole    E. miconazole
28. The most effective drug for the treatment of trichomonas vaginalis is  
 A. metronidazole    B. acetarsol    C. tinidazole    A  
 D. mebendazole    E. albendazole
29. Which of the following drugs is more effective for the treatment of chronic granulocytic leukemia ?  
 A. methotrexate    B. fluorouracil    C. busulfan    c  
 D. thiotepa    E. camptothecine
30. A patient with typhoid fever can be given (D)  
 A. streptomycin    B. spectinomycin    C. sulfadiazine  
 D. ampicillin    E. acetylspiramycin

**TYPE B**

- A. Pilocarpine    B. Physostigmine  
 C. Phentolamine    D. Succinylcholine
31.  $\alpha$  -Adrenoceptor blocking drug    c
32. N-Cholinoceptor blocking drug    d  
 A. Amantadine    B. Levodopa  
 C. Naloxone    D. Rotundin
33. Has analgesic and sedative actions    D
34. Can induce central dopamine release, produces antiparkinsonism effect. A  
 A. Sodium phenytoin    B. Phenobarbital  
 C. Chlorpromazine    D. Ethosuximide
35. used to treat absence epilepsy.    d
36. used to treat schizophrenia.    c  
 A. Quinidine    B. Procainamide  
 C. Lidocaine    D. Sodium phenytoin
37. Inhibiting  $\text{Na}^+$  influx, can be used to treat ventricular arrhythmia. A
38. It is well curative effect for ventricular arrhythmia caused by cardiac glycosides.  
 A. Dicloxacillin    B. Ampenicillin  
 C. Carbenicillin    D. Mecillinam
39. It is effective against infection of resistantce staphylococcus aureus. A
40. It is most effective against infection of bacillus pyocyaneus. C

**TYPE C**

- A. Diazepam            B. Phenobarbital  
C. Both                D. Neither
41. Has sedative-hypnotic, anticonvulsive, antiepileptic and antianxiety actions.            A
42. Long-term use may produce tolerance and addiction.    C  
A. Quinidine            B. Procainamide  
C. Both                D. Neither
43. Can be used to treat atrial fibrillation and atrial flutter.            A
44. Can lengthen APD and ERP remarkably.            D  
A. Sodium phenytoin            B. Lidocaine  
C. Both                D. Neither
45. Can be used to treat ventricular arrhythmia and ventricular tachycardia caused by cardiac glycosides intoxication.            B
46. Can stabilize neuron cell membrane and can be used to treat trigeminal neuralgia sciatica .            A  
A. Aminomethylbenzoic acid            B. Dicumarol  
C. Both                D. Neither
47. It can be administered orally to treat thromboembolic disorders.            B
48. It can be used to treat bleeding caused by excess activation of plasmin.    A

**TYPE X**

49. A is a basic drug whose elimination rate increase by kidney after urine solution is acidified.  
A. Phenobarbital            B. Salicylates  
C. Sulfonamides            D. Morphine
50. The correct statements concerning the liver drug-metabolism enzyme have  
A. It is microsomal drug-metabolism enzyme system in the liver.  
B. It has very high singularity.  
C. Its activity can be induced or inhibited by some drugs.  
D. The activity is different in different individual.
51. The factors influencing the drug's action include  
A. The drug preparations.  
B. Route of administration.  
C. The drug interactions.  
D. The sex, age and nutrition statement.
52. The effects of pilocarpine on eyes is  
A. stimulating the M-receptors.  
B. decreasing intraocular pressure.

- C. plegia of accommodation.  
D. spasm of accommodation.
53. The contraindication of propranolol are:  
A. severe A-V conduction block.    B. sbradycardia.  
C. bronchial asthma.                      D. angina pectoris.
54. The drug(s) with strong anti-inflammation and anti-rheumatism, and weak in antipyresis and analgesia is(are):  
A. acetylsalicylic acid    B. phenylbutazone  
C. piroxicam                      D. indomethacin
55. Which of the following drugs can be used to treat thromboembolic disease ?  
A. Heparin                      B. Dicoumarol  
C. Urokinase                      D. Streptokinase
56. Which of the following drugs can be used to treat macrocytic anemia ?  
A. Iron dextran                      B. Ferric ammonium citrate  
C. Folic acid                      D. Vitamin B<sub>12</sub>
57. The adverse reactions of progestogen include  
A. renal damage                      B. inducing peptic ulcer  
C. endometria atrophy    D. sodium retention
58. Which of the following H<sub>1</sub>-receptor antagonists doesn't possess CNS depression effects ?  
A. Promethazine                      B. Chlopheniramine  
C. Hismanal                      D. Phenindamine
59. Which of the following drugs has the effect of protecting gastric mucosa ?  
A. Pirenzepine                      B. Aluminium hydroxide  
C. Sucralfate                      D. Colloidalbismuth subcitrate
60. It is the effective agents against penicillin-resistant staphylococci.  
A. Dicloxacillin                      B. Gentamycin  
C. Erythromycin                      D. Vancomycin

**PART II TERM EXPLANATION (10 points)**

1. Pharmacokinetics
2. Apprent volume of distribution
3. Hepato-enteral circulation
4. Hepatic drug enzyme inducer
5. Chemotherapy

**PART III SHOW THE INDICATIONS OF FOLLOWING DRUGS (10 points)**

1. Phenytoin sodium
2. Aspirin
3. Hydrochlorothiazine
4. Nitroglycerin
5. Losartan

**PART IV ASSAY QUESTIONS (30 points)**

1. Why should basic drugs given to the patient with phenobarbital intoxication ?
2. What is the mechanisms of neostigmine to treat myasthenia gravis ?
3. Try to explain the mechanisms of digoxin for the treatment of congestive heart failure.
4. Please explain the difference between streptomycin and gentamycin in clinical uses.

**FINAL EXAM OF PHARMACOLOGY FOR EM-98(B)  
2002-01-30**

**PART I CHOICE QUESTIONS (30 points)**

**TYPE A**

1. In which of the following conditions the duration of phenobarbital is the longest ? A  
A. urine pH4      B. urine pH5      C. urine pH6  
D. urine pH7      E. urine pH9
2. One drug is eliminated with the first-order kinetics, the  $t_{1/2}$  is 3 hrs. If the plasma concentration is  $100\mu\text{g/ml}$  at 8:00 am, how much the drug plasma concentration at 8:00 pm is ? E  
A.  $75\mu\text{g/ml}$       B.  $50\mu\text{g/ml}$       C.  $25\mu\text{g/ml}$       D.  $12.5\mu\text{g/ml}$       E.  $6.25\mu\text{g/ml}$
3. Drug A and drug B with the same action mechanism, drug A in a dose of 10 mg produces the same effect as drug B in a dose of 100 mg. B  
A. drug A has higher efficacy than drug B.  
B. drug A is more potent than drug B.  
C. toxicity of drug A is less than that of drug B.  
D. drug A is a better drug.  
E. drug A has a shorter duration of action.
4.  $pA_2$  is called C  
A. therapeutic index.      B. affinity index.      C. antagonism index.  
D. dissociation constant.      E. elimination rate constant.
5. The effects of pilocarpine are E  
A. miosis and increasing intraocular pressure.  
B. miosis and decreasing gland secretion.  
C. mydriasis and increasing gland secretion.



- D. spasm of accommodation and decreasing gland secretion.
- E. miosis and spasm of accommodation.
6. The elevated blood pressure caused by adrenaline can be reversed by B
- A. propranolol                      B. phentolamine                      C. isoprenaline  
D. verapamil                      E. clonidine
7. A  $\beta$ -blocker that is usually used in treating glaucoma is D
- A. propranolol      B. pindolol      C. atenolol  
D. timolol              E. metoprolol
8. Imipramine can be used to treat the patients with A
- A. depression              B. insomnia              C. anxiety  
D. Parkinson's disease      E. schizophrenia
9. Chlorpromazine can inhibit (E)
- A.  $\alpha$ -receptor                      B. muscarine receptor  
C. dopaminergic receptor      D. A+B+D              E. A+B
10. Morphine can produce the following effects EXCEPT (E)
- A. sedation                      B. euphoria              C. analgesia  
D. respiratory depression      E. antiemetic effect
11. The drug with potent antipsychotic effect, but no extrapyramidal reactions is (E)
- A. chlorpromazine              B. thioridazine              C. perphenazine  
D. haloperidol                      E. clozapine
12. The following drugs are effective in the treatment of rheumatic EXCEPT (D)
- A. aspirin                      B. ibuprofen              C. piroxicam  
D. acetaminophen              E. indomethacin
13. Which of the following statements about aspirin is WRONG ? (A)
- A. the analgesic effect is due to the antagonism of PG.  
B. the main uses to relieve headache and other dull pain.  
C. the main adverse effect is GI reactions.  
D. it can inhibit cyclo-oxygenase  
E. it inhibits the synthesis both PGI<sub>2</sub> and TXA<sub>2</sub>
14. All of the following measures can be used in the treatment of digoxin-induced arrhythmias EXCEPT (B)
- A. stopping digoxin administration.  
B. diuretic agents is used to improve excretion.  
C. phenytoin administration.  
D. atropine administration.  
E. lidocaine administration.
15. Which of the following antianginal drugs is harmful to patients with variant angina ? (C)
- A. verapamil              B. nitroglycerin              C. propranolol

- D. nifedipine      E. diltiazem
16. Which of the following drugs is a HMG-CoA reductase inhibitor ? (D)  
 A. propranolol      B. probucol      C. proglumide  
 D. simvastatin      E. prostigmine
17. The main reason for the use of L-dopa combination with carbidopa is (B)  
 A. to increase the absorption of L-dopa.  
 B. to inhibit L-dopa decarboxylation in the periphery.  
 C. to inhibit MAO.  
 D. to inhibit COMT.  
 E. to increase L-dopa converting to dopamine directly.
18. Which of the following statements is WRONG ? (E)  
 A. isoniazid readily penetrates cells and caseous tuberculous lesions.  
 B. isoniazid can cause peripheral neuritis.  
 C. rifampin is primarily used in the treatment of tuberculosis.  
 D. rifampin is an inducer of liver microsomal enzyme.  
 E. mycobacteria of tuberculosis readily resists to PAS.
19. The best drug administration in treating pernicious anemia is (E)  
 A. ferrous sulfate      B. vitamin B<sub>12</sub> orally      C. iron dextran  
 D. folic acid      E. vitamin B<sub>12</sub> intramuscularly
20. An old patient with a history of hypertension and congestive heart failure administered some drugs, now he complains of nausea and blurred vision, which agent will most likely induce these untoward effects? B  
 A. nifedipine      B. digoxin      C. diazoxide  
 D. prazosin      E. clonidine
21. Which drug can inhibit  $\alpha$ -glycosidase ? (D)  
 A. gliclazide      B. glipizide      C. gliquidone  
 D. acarbose      E. metformin
22. Which of the following group drugs act on S stage of cell proliferation ? (D)  
 A. 6-MP, 5-FU, MTX, Nitrogen mustards  
 B. 6-MP, 5-FU, MTX, CTX (cyclophosphamide)  
 C. 6-MP, 5-FU, Ara-C, TSPA (thio-tepa)  
 D. 6-MP, Ara-C, MTX, Hydroxyurea  
 E. 6-MP, 5-FU, Mitomycin, Vincristin
23. All of the following statements about glucocorticoids are true, EXCEPT ©  
 A. inhibiting both the early and the late manifestation of inflammation.  
 B. affecting all types of inflammatory reactions.  
 C. increasing the amount of lymphocytes.  
 D. inhibiting the release of arachidonic acid from membrane.

- E. inhibiting granulation tissue formation.
24. The structure required for antimicrobial activity of penicilins is ©
- A. penicillanic acid                      B. thiozolidine ring                      C.  $\beta$ -lactam ring  
D. the side chains                      E. penicilloys-polylysine
25. The patients with acute or chronic suppurative arthritis can be given (D)
- A. vancomycin                      B. metronidazole                      C. polymyxins  
D. clindamicin                      E. rifampin
26. All of the following drugs can be given in patients with peptic ulcer EXCEPT (D)
- A. omeprazole                      B. proglumide                      C. ranitidine  
D. ondansetron                      E. amoxicillin
27. Hydrochlorothiazide can be used in the following indications EXCEPT ©
- A. chronic edema                      B. diabetes inspidus                      C. hyperuricemia  
D. hypertension                      E. heart failure
28. Which of the following drugs can treat the patient with malaria ? (D)
- A. praziquantel                      B. trimethapram                      C. bleomycin  
D. chloroquine                      E. quinidine
29. Inhibiting mRNA synthesis, which of the following drug has activity against mycobacteria and many other bacteria ? ©
- A. isoniazide                      B. streptomycin                      C. rifampin  
D. ethambutol                      E. p-aminosalicylic acid
30. A patient with typhoid fever can be given (D)
- A. streptomycin                      B. spectinomycin                      C. sulfadiazine  
D. ampicillin                      E. acetylspiramycin

#### **TYPE B**

- A. promethazine                      B. acetaminophen                      C. morphine  
D. sucralfate                      E. famotidine
31. is a H<sub>1</sub>-receptor antagonist. (A)
32. possesses antipyretic and analgesic actions. (B)
- A. prozosin                      B. minoxidil                      C. nifedipine  
D. clonidine                      E. captopril
33. can block calcium channel. ©
34. can stimulate I<sub>1</sub>-imidazoline receptor in rostral portion of the ventrolateral medulla. (D)
- A. sodium cromoglycate                      B. benzonatate                      C. erythropoietin(EPO)  
D. errous sulfate                      E. terbutaline
35. can be used in patients with anemia in chronic renal dysfunction. ©
36. can be used to prevent from occurrence of asthma. (A)

**TYPE C**

- A. diazepam                      B. phenobarbital  
C. both                              D. neither
37. has sedative hypnotic and anticonvulsive and antiepileptic action.    C  
38. long-term use may produce tolerance and addiction                      C  
A. ciprofloxacin                      B. azithromycin  
C. both                              D. neither
39. can inhibit DNA gyrase.    A  
40. can be used in patients with urinary tract infection.    D

**TYPE X**

41. The patients with bronchial asthma can be given                      AB  
A. theophylline                      B. salbutamol                      C. aspirin  
D. propranolol
42. Which of the following effects of digoxin can be seen in failure heart ?  
ABCD  
A. slowing sinus rhythm.  
B. increasing the cardiac output.  
C. decreasing the myocardial oxygen consumption.  
D. increasing the myocardial contractile.
43. Which of the following diseases is the contraindication of glucocorticoids ? (BCD)  
A. fulminant epidemic cerebrospinal meningitis  
B. psychosis  
C. diabetes mellitus  
D. severe hypertension
44. A patient with epidemic cerebrospinal meningitis can be given (ACD)  
A. chloramphenicol                      B. streptomycin  
C. sulfadiazine                      D. penicillin G
45. Which of the following drugs is(are) selective  $\beta$ -blocker(s) ? (CD)  
A. propranolol                      B. labetalol  
C. metoprolol                      D. atenolol
46. Adrenaline induce (ABCD)  
A. stimulating heart                      B. bronchodilation  
C. increasing metabolism    D. contraction of nasal mucous vessel
47. Glucocorticoids can be used to treat the patient with (AD)  
A. intoxicant shock                      B. gastric ulcer

- C. chickenpox                              D. acute lymphocyte leukemia
48. Which of the following drugs is(are) antituberculosic ? (A D)  
 A. isoniazide                              B. clarithromycin  
 C. ciprofloxacin                            D. rifampin
49. The untoward reactions of cardiac glycosides include (ABCD)  
 A. GI reactions                            B. bradycardia                            C. tachycardia  
 D. xanthopsia that all subjects appear yellow
50. Aminophylline (AC)  
 A. inhibits phosphodiesterase.  
 B. inhibits cardiovascular system.  
 C. excites central nervous system.  
 D. contracts bronchial muscles.
51. When given the following drugs combined with warfarin, which could probably require a reduction in warfarin dosage ? (AC)  
 A. aspirin                                    B. clonidine  
 C. phenylbutazone                        D. phenobarbital
52. Omeprazole (ABC)  
 A. is the strongest inhibitor of gastric acid excretion.  
 B. can inhibit the last step for secretion of  $H^+$  in the parietal cell.  
 C. can be used for patients with peptic ulcer.  
 D. can block gastrin receptor.
53. A patient with acute granulocytic leukemia can be given. (BD)  
 A. tamoxifen    B. harringtonine    C. 5-Fu    D. cytarabine
54. Please point out which drug(s) is(are) less toxic to bone marrow. (ABCD)  
 A. bleomycin    B. tamoxifen    C. prednisone                            D. vincristin
55. Heparin can be used for patients with (ABC)  
 A. myocardial infarction                    B. DIC  
 C. pulmonary embolism                      D. osteoporosis
56. Which of the following drugs can be given in a patient with urinary tract infection caused by  $G^-$  rods ? (ABD)  
 A. ciprofloxacin.    B. SIZ                    C. cefazolin                    D. gentamicin
57. The effect of sulfonamides can be affected by (ABCD)  
 A. TMP    B. PABA    C. pyrimethamine                    D. procaine
58. Which of the following drugs can be used for patients with biliary colic ?  
 A. morphine    B. caffeine    C. atropin    D. pethidine (ACD)
59. Ondansetron (AC)  
 A. is a 5-HT<sub>3</sub> antagonist.  
 B. can treat motion sickness.  
 C. has a potent antiemetic effect.

D. can block DA receptor.

60. The drug(s) that is used for artificial hibernation is(are) (ABD)

- A. pethidine
- B. chlorpromazine
- C. diazepam
- D. promethazine

**PART II TERM EXPLANATION (10 points)**

1. Competitive antagonist
2. First pass elimination
3. First-order kinetics
4. Individual variation
5. Drug abuse

**PART III SHOW THE INDICATIONS OF FOLLOWING DRUGS (10 points)**

1. Codeine
2. Propranolol
3. Captopril
4. Isoprenaline
5. Metronidazole

**PART IV ASSAY QUESTIONS (30 points)**

1. Please explain the mechanisms of morphine in treating patients with cardiac asthma. (5)
2. How do you understand the beneficial and harmful aspects regarding the anti-inflammatory action of glucocorticoids? (10)
3. Please describe the action and mechanism of losartan. (5)
4. Please give your advices when treating a patient with septic shock caused by G<sup>-</sup> rods. (10)