

一、選擇題 (請選擇一個最佳答案, 每題二分, 共 50 分)

1. This drug has activity against herpes simplex virus type 1 and is used only topically. Systemic administration results in bone marrow depression, hepatic dysfunction, and nephrotoxicity.
A. Nystatin
B. Idoxuridine
C. Gentamicin
D. Dapsone
E. Ampicillin
2. Which of the following inhibits the activity of xanthine oxidase in the therapy of gout?
A. Probenecid
B. Acetaminophen
C. Sulfapyrazone
D. Colchicine
E. Allopurinol
3. Which is not included in the MOPP regimen in treating advance stage of Hodgkin's disease?
A. Nitrogen mustard
B. Prednisone
C. Vincristine
D. Procarbazine
E. Methotrexate
4. A principal role for the bacterium in gastrointestinal ulcer pathogenesis is now widely accepted. Which of the following is involved in ulcer pathogenesis?
A. *Staphylococcus aureus*
B. *Escherichia coli*
C. *Helicobacter pylori*
D. *Pseudomonas aeruginosa*
E. *Proteus mirabilis*
5. Which of the following is used in the treatment of acid-peptic disease especially duodenal ulcer because it produces a surmountable pharmacologic blockade of histamine H_2 receptors.
A. Terfenadine
B. Impromidine
C. Triprolidine
D. Ranitidine

(背面仍有題目, 請繼續作答)

E. Cyproheptadine

6. Which of the following has both antacid and laxative effects?

- A. Magnesium hydroxide
- B. Mineral oil
- C. Aluminium hydroxide
- D. Castor oil
- E. Sucralfate

7. All of the following inhibit the platelet aggregation except:

- A. Prostacyclin
- B. Thromboxane A_2
- C. Nitric oxide
- D. Prostaglandin E_1
- E. Aspirin

8. Which of the following anti-hyperlipidemic drugs causes a reduction in absorption of bile acids from gastrointestinal tract?

- A. Cholestyramine
- B. Probucol
- C. Lovastatin
- D. Niacin
- E. Gemfibrozil

9. Captopril does all of the following except:

- A. Increases sodium and decreases potassium in the urine
- B. Decreases angiotensin II concentration in the blood
- C. Inhibits ACE activity
- D. Completely blocks angiotensin II at its receptor
- E. Increases renin concentration in the blood

10. A potassium-sparing diuretic acts as a pharmacologic antagonist of aldosterone in the collecting tubules, and reduces the expression of the genes controlling synthesis of sodium ion channels and Na^+/K^+ ATPase.

- A. Vasopressin
- B. Spironolactone
- C. Furosemide
- D. Hydrochlorothiazide
- E. Mannitol

11. Aspirin inhibits the biosynthesis of prostaglandins in inflammatory cells because it inhibits the activity of:

- A. Phospholipase C

- B. Phospholipase A₂
C. Cyclooxygenase
D. 5-Lipoxygenase
E. Cytochrome P₄₅₀
12. Ondansetron is a 5-HT₃ blocker. It is clinically used in the therapy of:
A. Hypertension
B. Vomiting associated with chemotherapy
C. Motion sickness
D. Parkinson's disease
E. Migrane
13. All of the following drugs are used in the coagulation disorders. Which may evoke the production of antibodies and lose its effectiveness or even induce severe allergic reactions upon subsequent therapy?
A. t-PA
B. Heparin
C. Urokinase
D. Warfarin
E. Streptokinase
14. Pralidoxime (2-PAM) is an antidote for:
A. Parathion poisoning
B. Herbicide poisoning
C. Dioxin poisoning
D. Lead poisoning
E. Chronic poisoning caused by chlorinated hydrocarbon insecticide
15. The most common side effect of estrogen-containing oral contraceptives is:
A. Osteoporosis
B. Diabetes mellitus
C. Acromegaly
D. Thrombophlebitis
E. Breast cancer
16. Somatostatin biosynthesized in hypothalamus
A. inhibits the release of prolactin in pituitary.
B. stimulates the release of prolactin in pituitary.
C. inhibits the release of growth hormone in pituitary.
D. stimulates the release of growth hormone in pituitary.
E. inhibits the release of beta-lipotropin in pituitary.
17. Nitroglycerin is the most important one of nitrates in the treatment of angina. Which of

(背面仍有題目,請繼續作答)

the following is its major pharmacological action in smooth muscle cells of blood vessels?

- A. Stimulation of guanylyl cyclase
- B. Stimulation of adenylyl cyclase
- C. Inhibition of guanylyl cyclase
- D. Inhibition of adenylyl cyclase
- E. Inhibition of phosphodiesterase

18. All of the following can be used for chronic oral therapy of arrhythmias except:

- A. Disopyramide
- B. Verapamil
- C. Amiodarone
- D. Procainamide
- E. Esmolol

19. Which of the following is the primary biomechanism of action of digitalis in the cell membrane of heart?

- A. Stimulation of Na^+/K^+ ATPase
- B. Inhibition of Ca^{2+} influx
- C. Stimulation of Ca^{2+} influx
- D. Inhibition of Na^+/K^+ ATPase
- E. Stimulation of Cl^- influx

20. Drugs that have been found to be useful in one or more types of heart failure include all of the following except:

- A. Thiazide diuretics
- B. Alpha adrenoceptor agonists
- C. ACE inhibitors
- D. Na^+/K^+ ATPase inhibitors
- E. Beta adrenoceptor agonists

21. Which of the following antimycobacterial drugs eliminates a majority of meningococci from carriers, but highly resistant strain may be selected out during treatment?

- A. Ethambutol
- B. Isoniazid
- C. Streptomycin
- D. Clofazimine
- E. Rifampin

22. Which of the following antibiotics with the beta-lactam ring structure must be administered in combination with cilastatin, an inhibitor of renal dihydropeptidase, in order to prevent the rapid inactivation of this antibiotic?

- A. Imipenem

- B. Penicillin G
- C. Cefaclor
- D. Penicillin V
- E. Ceftriaxone

23. The mechanism of antibacterial action of tetracyclines involves:

- A. Inhibition of translocase activity
- B. Selective inhibition of ribosomal peptidyl transferases
- C. Blockade of binding of aminoacyl-tRNA to bacterial ribosomes
- D. Inhibition of DNA-dependent RNA polymerase
- E. Inhibition of the conversion of lanosterol to ergosterol

24. Possible complications of insulin therapy in patients include:

- A. Hypoglycemia
- B. Pancreatitis
- C. Increased bleeding tendency
- D. Dilutional hyponatremia
- E. Hypokalemia

25. Which of the following is an orally active steroid antagonist of progesterone and glucocorticoids, that is majorly used thus far as an abortifacient?

- A. Tamoxifen
- B. Mifepristone
- C. Clomiphene
- D. Danazol
- E. Relaxin

二、簡答題 (每題 5%，總計 20%)

1. 一種藥物的作用是否藉由體內的受體 (receptor) 所引致者，要如何區分？請詳細說明之。
2. 請指出「藥理學 (pharmacology)」與「藥學 (pharmacy)」的異同點。
3. 臨床醫師對於「憂鬱症 (depression)」和「躁鬱症 (Manic Depression)」的病人會用什麼藥物來治療？請說明它們的作用機轉 (action mechanism)。
4. 東京地鐵曾發生的「沙林 (Sarin) 毒氣」事件，受害者會出現那些症狀？請以藥理學的觀點來說明這項原因。

(背面仍有題目,請繼續作答)

三、請說明下列藥物的醫療用途及作用機轉。(每題 3%，總計 30%)

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|----------------|---------------|------------------|-------------------|
| 1. Atenolol | 2. Baclofen | 3. Carbamazepine | 4. Dantrolene |
| 5. Edrophonium | 6. Esmolol | 7. Fentanyl | 8. Metoclopramide |
| 9. Ondansetron | 10. Terazosin | | |