

Five-Choice CompletionDirection: Select the Single best answer (2% per question)

1. Ritodrine (Yutopar) is used in the treatment of
  - A. premature labor.
  - B. Parkinsonism.
  - C. hypertension.
  - D. depression.
  - E. bronchial asthma.
  
2. Which of the following NSAIDs is a pro-drug?
  - A. aspirin
  - B. naproxen
  - C. indomethacin
  - D. sulindac
  - E. ibuprofen
  
3. Which of the following has the gastric cytoprotective effect?
  - A. prostaglandin E<sub>2</sub>
  - B. thromboxane A<sub>2</sub>
  - C. leukotriene B<sub>4</sub>
  - D. prostaglandin D<sub>2</sub>
  - E. leukotriene C<sub>4</sub>
  
4. Xanthine oxidase is an enzyme to metabolize hypoxanthine to uric acid. Which of the following is used in the treatment of gout because of its inhibition of this enzyme?
  - A. dexamethasone
  - B. probenecid
  - C. allopurinol
  - D. colchicine
  - E. sulfinpyrazone
  
5. Which of the following chemical mediators is released from the cytoplasmic granules in human mast cells upon IgE-induced anaphylaxis?
  - A. prostaglandin D<sub>2</sub>
  - B. prostaglandin F<sub>2α</sub>
  - C. leukotriene C<sub>4</sub>
  - D. prostaglandin E<sub>2</sub>
  - E. histamine
  
6. Which of the following drugs does not possess anticholinesterase activity?

- A. neostigmine
  - B. carbachol
  - C. organophosphorous compounds
  - D. physostigmine
  - E. edrophonium
7. The compound can be used to patients by oral intake is
- A. dopamine.
  - B. norepinephrine.
  - C. epinephrine.
  - D. ephedrine.
  - E. isoproterenol.
8. Which of the following blood cells contains the highest content of histamine?
- A. platelet
  - B. polymorphonuclear leukocyte
  - C. macrophage
  - D. basophil
  - E. lymphocyte
9. An enzymes which induces the release of arachidonic acid from phospholipids in cells is
- A. phospholipase C.
  - B. phospholipase A<sub>1</sub>.
  - C. phospholipase D.
  - D. phospholipase A<sub>2</sub>.
  - E. phosphodiesterase.
10. Zollinger-Ellison Syndrome is a fetal gastro-intestinal disorder. Hypersecretion of acid is caused by a gastrin-secreting tumor. Which of the following can be used before surgery or as primary treatment when surgery is not indicated?
- A. cimetidine
  - B. ergonovine
  - C. dexamethasone
  - D. chlorpheniramine
  - E. ketanserin
11. Compared with barbiturates, benzodiazepines
- A. do not produce tolerance or physical dependence.
  - B. powerfully induce hepatic enzyme systems.
  - C. do not produce anticonvulsant activity.
  - D. do not effect GABAergic neurotransmission.
  - E. have greater margin of safety.

12. Which of the following is a selective inhibitor of monoamine oxidase B?
- A. phenelzine
  - B. bromocriptine
  - C. amantadine
  - D. caffeine
  - E. deprenyl
13. The following items are beneficial to the healing of peptic ulcer except:
- A. Increment of gastric mucosal blood flow.
  - B. Decrease of the back diffusion of gastric acid.
  - C. Stimulation of vagus nerve.
  - D. Elevation of mucus production.
  - E. Enhancement of bicarbonate secretion.
14. All substances shown below are antidiarrheal agents except:
- A. kaolin.
  - B. active charcoal.
  - C. bismuth bicarbonate.
  - D. opiates.
  - E. prostaglandins.
15. Dipyridamole is used as an anti-platelet drug because
- A. It inhibits platelet phosphodiesterase.
  - B. It stimulates platelet adenylate cyclase.
  - C. It inhibits phospholipases in platelets.
  - D. It inhibits fatty acid cyclooxygenase in platelets.
  - E. It inhibits thromboxane synthase in platelets.
16. Renin, a kidney enzyme in granules of the juxtaglomerular apparatus, induces
- A. the formation of angiotensin III from angiotensin II.
  - B. the formation of angiotensin III from angiotensin I.
  - C. the formation of angiotensin I from angiotensinogen.
  - D. the formation of angiotensin II from angiotensin I.
  - E. the breakdown of angiotensin II.
17. The proximal portion of the renal tubules is responsible for reabsorption of 70% or more of filtered monovalent electrolytes and water. The proximal tubules actively reabsorb sodium ions in exchange for hydrogen ions. The  $H^+$  is made available by dissociation of  $H_2CO_3$  by carbonic anhydrase. Which of the following diuretic drugs is a carbonic anhydrase inhibitor?

- A. Mannitol
  - B. Spironolactone
  - C. Ethacrynic acid
  - D. Acetazolamide
  - E. Amiloride
18. The incorrect statement for colchicine is:
- A. an antihypertensive agent.
  - B. an alkaloid used in the treatment of gout.
  - C. a metaphase poison.
  - D. may cause nondysjunction (unequal partitioning of chromosomes in daughter cells).
  - E. a natural product extracted from a plant.
19. A drug used in pregnant mothers can cause vaginal adenocarcinoma in daughters.
- A. aflatoxin B<sub>1</sub>
  - B. diethylstilbestrol
  - C. asbestos fibers
  - D. thalidomide
  - E. methotrexate
20. Which is not included in the MOPP regimen in treating advance stages of Hodgkin's disease?
- A. vincristine
  - B. prednisone
  - C. procarbazine
  - D. nitrogen mustard
  - E. methotrexate
21. Which is the orally active antineoplastic agent that must be activated by hepatic cytochrome P-450?
- A. adriamycin
  - B. bleomycin
  - C. cyclophosphamide
  - D. mephalan
  - E. BCNU (carmustine)
22. Acetaminophen is equipotent to aspirin as an antipyretic, especially useful in patients with the following conditions, except:
- A. with clotting disorders.
  - B. with poor hepatic glutathione stores.
  - C. with gout taking a uricosuric agent.
  - D. taking oral anticoagulant.
  - E. with peptic ulcer.

23. Which of the following statements about tissue-type plasminogen activator (tPA) and streptokinase is WRONG?
- A. Streptokinase is an enzyme produced by certain strains of Streptococci.
  - B. Streptokinase activates plasminogen by a nonenzymatic formation in the conformation of the molecule.
  - C. Streptokinase is more selective than tPA because it converts inactive plasminogen into plasmin within the confines of the clot.
  - D. Long-term treatment with streptokinase produces antibodies because it is a foreign protein.
  - E. tPA has less risk of bleeding tendency than streptokinase.
24. Increased levels of which of the following may be associated with the decreased risk of atherosclerosis?
- A. Lp(a) lipoproteins
  - B. chylomicrons
  - C. high-density lipoproteins
  - D. very low density lipoproteins
  - E. intermediate-density lipoproteins
25. Which of the following can reduce the production of aldosterone or antagonize its action?
- A. spironolactone
  - B. amiloride
  - C. captopril
  - D. triamterene
  - E. all of the above
26. Each of the following drug can cause bradycardia, except:
- A. clonidine
  - B. propranolol
  - C. reserpine
  - D. hydralazine
  - E. guanethidine
27. Antidote to patients with cyanide intoxication is
- A. nifedipine.
  - B. sodium nitroprusside
  - C. amyl nitrite
  - D. aminophylline
  - E. captopril

28. In Purkinje fibers, an influx of  $Ca^{++}$  into cell occurs mainly at
- phase 0.
  - phase 1.
  - phase 2.
  - phase 3.
  - phase 4.
29. Procanamide alters cardiac and particularly ventricular rate by which of the following mechanisms?
- Prolongation of the effective refractory period.
  - Cardiac  $\beta$ -blockade.
  - An acetylcholine-like effect.
  - Increased conduction velocity in bundle of His.
  - Increased excitability of the pacemaker tissue.
30. Digitalis is given to patients with atrial fibrillation because it
- decreases the excitability of the atrial.
  - increases the slope of phase 4 depolarization.
  - decreases the automaticity of the atrial.
  - increases the effective refractory period of the A-V node.
  - decrease the effective refractory period of the atria.
31. Which of the following drugs is abused by some athletes including body builders and weight lifters?
- methandrostenolone
  - ethyl estradiol
  - thyroxine
  - hydrocortisone
  - growth hormone
32. Which of the following enzyme activities is stimulated by a tumour-promoting phorbol ester (1-O-tetradecanolphorbol-13-acetate, TPA)?
- tyrosine-specific protein kinase
  - calmodulin-dependent protein kinase
  - phospholipid-dependent protein kinase (protein kinase C)
  - cAMP-dependent protein kinase
  - cGMP-dependent protein kinase
33. Estradiol is effective in the therapy of osteoporosis. Which of the following is the BEST explanation for this action mechanism?
- Estradiol increases the formation of 7-dehydrocholesterol which is the precursor of active vitamin  $D_3$ .
  - Estradiol stimulates the photochemical reaction resulting in increase in vitamin  $D_3$  biosynthesis.

- C. Estradiol stimulates the hepatic 25-hydroxylase activity resulting in increase in 25-hydroxycholecalciferol biosynthesis.
- D. Estradiol stimulates the renal 1-hydroxylase activity resulting in increase in 1,25-dihydroxy-vitamin D<sub>3</sub> (calcitriol) biosynthesis.
- E. Estradiol retards the degradation of calcitriol.
34. The most common side effect of estrogen-containing oral contraceptives is
- A. diabetes mellitus.
- B. breast cancer.
- C. osteoporosis.
- D. acromegaly.
- E. thrombophlebitis.
35. Which of the following inhalational general anesthetics may cause bradycardia and bronchodilation?
- A. chloroform
- B. halothane
- C. methylflurane
- D. cyclopropane
- E. divinylether
36. Opioid agonist-induced analgesia is mainly mediated by
- A.  $\mu$ 1-receptors.
- B.  $\mu$ 2-receptors.
- C.  $\delta$ -receptors.
- D.  $\kappa$ -receptors.
- E.  $\sigma$ -receptors.
37. Isoproterenol can produce all of the following except
- A. ventricular arrhythmias.
- B. hypoglycemia.
- C. uterine relaxation.
- D. bronchial relaxation.
- E. positive inotropic effect.
38. Injection of bethanechol would probably do all of the following except
- A. cause miosis (constriction of the pupil).
- B. decrease bladder capacity.
- C. produce bronchodilation.
- D. decrease blood pressure.
- E. increase gastrointestinal tract tone and peristalsis.
39. Which of the following act(s) primarily on a receptor located on the membrane of autonomic effector cell?

- A. epinephrine
  - B. tyramine
  - C. cocaine
  - D. clonidine
  - E. all of the above
40. Drug(s) is/are useful in the treatment of Parkinson's disease.
- A. bromocriptine
  - B. amantadine
  - C. benztropine
  - D. levodopa
  - E. all of the above
41. Biotransformation (metabolism) usually results in a product that is
- A. more likely to produce side effects.
  - B. more lipid soluble than the original drug.
  - C. more likely to be reabsorbed by kidney tubules.
  - D. less lipid soluble than the original drug.
  - E. more likely to distribute intracellularly.
42. Migraine episodes can be reduced by
- A. propranolol.
  - B. verapamil.
  - C. nitroprusside.
  - D. ergotamine.
  - E. epinephrine.
43. Chronic open-angle glaucoma is treated in clinics by
- A. timolol.
  - B. atropine.
  - C. pilocarpine.
  - D. cyclopentolate.
  - E. none of the above.
44. Each of the following is recognized as a central neurotransmitter except
- A. serotonin.
  - B. norepinephrine.
  - C. depasmine.
  - D. cAMP.
  - E. acetylcholine.
45. The drug has a shorter half-life than others in its chemical class. It is widely used as hypnotic and may cause daytime anxiety and amnestic effects.



- A. buspirone
- B. triazolam
- C. flumazenil
- D. chloral hydrate
- E. phenobarbital

46. All of the following are signs or symptoms of chronic ethanol use except

- A. distal paresthesia.
- B. gynecomastia and testicular atrophy.
- C. fatty liver and hepatitis.
- D. gastric irritation and bleeding.
- E. decreased liver alcohol dehydrogenases level.

47. Drugs used in the treatment of partial seizures include all of the following except

- A. valproic acid.
- B. phenytoin.
- C. ethosuximide.
- D. carbamazepine.
- E. primidone.

48. The pKa of lidocaine is 7.9. At pH 6.9, the fraction in the ionized form will be

- A. 1%.
- B. 10%.
- C. 50%.
- D. 90%.
- E. 99%.

49. Which of the following is a GABA analog (agonist at GABA<sub>B</sub> receptors) that reduces motor neuron outflow?

- A. tubocurarine
- B. dantrolene
- C. succinylcholine
- D. diazepam
- E. baclofen

50. Which of the following drugs has typical adverse effects including tremor, edema and nephrogenic diabetes insipidus?

- A. bromocriptine
- B. promethazine
- C. lithium
- D. trifluoperazine
- E. thioridazine