
1997 PRACTICE PHARMACOLOGY MCQ's
(Compiled from Melbourne University Pharmacology department tutorials)

PART A

Choose the single best answer

1. **Histamine does NOT:**
 - A. Contract bronchial smooth muscle
 - B. Stimulate sensory nerve endings in the skin
 - C. Relax gastrointestinal smooth muscle
 - D. Open gaps in post capillary venules
 - E. Stimulate gastric acid secretion

2. **Which of the following statements about salbutamol is INCORRECT:**
 - A. It is a functionally selective β_2 agonist
 - B. It dilates the bronchi
 - C. It relaxes the pregnant uterus
 - D. It selectively stimulates cardiac β_1 receptors
 - E. It can cause muscle tremor

3. **Which of the following drug types is used to treat a Parkinsonian syndrome caused by the antipsychotic drug chlorpromazine:**
 - A. Nicotinic receptor antagonists (e.g. hexamethonium)
 - B. Muscarinic receptor antagonists (e.g. benztrapine)
 - C. α adrenoceptor antagonists (e.g. phentolamine)
 - D. Anticholinesterases (e.g. physostigmine)
 - E. A precursor of dopamine (e.g. levodopa)

4. **Leu-enkephalin is:**
 - A. A structural analogue of morphine
 - B. A peptide transmitter that causes hyperalgesia
 - C. Processed from the precursor proopiomelanocortin
 - D. Thought to be the endogenous transmitter substance for opioid receptors
 - E. An endogenous antiepileptic substance released from the temporal lobe of the brain

5. **Isoniazid is eliminated rapidly in some people but slower in others because:**
 - A. Of hereditary variation in the rate of isoniazid excretion by the kidneys
 - B. Of a variable capacity of the hepatic enzyme acetyltransferase to metabolise isoniazid
 - C. Pseudocholinesterase enzymes exhibit a form of polymorphism
 - D. The enzyme glucose-6-phosphate dehydrogenase exists in at least two polymorphic forms
 - E. Isoniazid polymerase is absent in some individuals

6. **Which of the following statements is INCORRECT:**
 - A. Some histamine H1 receptor antagonists are used in the prophylaxis and treatment of motion sickness
 - B. Histamine H2 receptor antagonists are potentially useful in the treatment of gastric hypersecretory states
 - C. Promethazine possesses anti-emetic, sedative and anti-muscarinic activity
 - D. Histamine H1 receptor antagonists inhibit the release of histamine
 - E. Histamine H1 receptor antagonists are effective in the treatment of hay fever

- 7. The antihypertensive action of prazosin is due to:**
- A. Blockade of calcium channels.
 - B. Inhibition of angiotensin converting enzyme.
 - C. Antagonism of alpha1-adrenoceptors
 - D. Inhibition of transmitter release from noradrenergic nerve terminals.
 - E. Selective depression of cardiac output.
- 8. Which of the following statements about glyceryl trinitrate is INCORRECT:**
- A. It dilates veins at lower concentrations than it dilates arteries
 - B. It is ineffective when swallowed
 - C. Its efficacy in patients with classical angina is due to dilation of coronary arteries
 - D. It may result in tolerance with repeated use
 - E. It may produce headache
- 9. Prostacyclin does NOT:**
- A. Inhibit platelet aggregation
 - B. Stimulate cAMP production in platelets
 - C. Inhibit gastric acid secretion
 - D. Inhibit renin release
 - E. Cause vasodilation
- 10. Nitrous oxide is used in anaesthesia because it:**
- A. Rapidly induces stage III anaesthesia
 - B. Is extremely soluble in blood
 - C. Is a potent analgesic
 - D. Relaxes skeletal muscle
 - E. Stimulates respiratory rate
- 11. Which of the following penicillins is broad spectrum in its antimicrobial action and stable in gastric juice:**
- A. Benzylpenicillin
 - B. Phenoxymethylpenicillin
 - C. Ampicillin
 - D. Methicillin
 - E. Ticarcillin
- 12. All sympathomimetic amines which have a methyl substituent on the α carbon atom are:**
- A. Good substrates for monoamine oxidase
 - B. Not taken up by noradrenergic neurones
 - C. Not substrates for monoamine oxidase
 - D. Not substrates for catechol – O – Methyl transferase
 - E. Specific agonists for β 1 adrenoceptors
- 13. Serotonin synthesis is inhibited by:**
- A. Ondansetron
 - B. Methysergide
 - C. Imipramine
 - D. Fenclonine (p-chlorophenylalanine)
 - E. Chlorpromazine

14. Chlorpromazine blocks:

- A. α adrenoceptors, serotonin receptors, histamine H1 receptors and muscarinic cholinceptors
- B. β Adrenoceptors, histamine H2 receptors and bradykinin receptors
- C. Noradrenaline and serotonin uptake into neurones and nicotinic cholinceptors
- D. Dopamine receptors, prolactin receptors, muscarinic cholinceptors and noradrenaline uptake into neurones
- E. α adrenoceptors, β adrenoceptors, muscarinic and nicotinic cholinceptors and serotonic receptors

15. Barbituates produce:

- A. Respiratory depression in high doses
- B. Physical and psychological dependence with prolonged use
- C. Hangover effects with used as hypnotics
- D. Suppression of REM sleep resulting in rebound REM sleep on withdrawal
- E. All of the above

16. Which of the following drugs does NOT activate β adrenoceptors

- A. Noradrenaline
- B. Adrenaline
- C. Salbutamol
- D. Dobutamine
- E. Methoxamine

17. Which of the following is NOT associated with treatment of cancer patients with an alkylating agent:

- A. Nausea
- B. Hair loss
- C. A rapid decline in erythrocyte count
- D. A decline in white blood cell numbers
- E. Degeneration of intestinal crypts

18. Bromocriptine is NOT:

- A. An ergot derivative
- B. A dopamine agonist
- C. A prolactin antagonist
- D. Effective by mouth
- E. Capable of causing mental disturbances such as psychosis and/or mania

19. Potent inhalational anaesthetics such as halothane:

- A. Have analgesic properties at subanaesthetic concentrations
- B. Cause dose dependent liver damage
- C. Limit the inspired oxygen concentration that can be delivered
- D. Are bronchodilators
- E. Reduce cerebral blood flow

20. Which of the following statements is INCORRECT:

- A. Dopa decarboxylase is present in noradrenaline storage vesicle
- B. Tyrosine hydroxylase is present in the cytoplasm of sympathetic nerve varicosities
- C. Monoamine oxidase is associated with mitochondrial membrane in sympathetic nerve varicosities
- D. Catechol-o-methyltransferase is present in smooth muscle cells
- E. Dopamine β hydroxylase is present in noradrenaline storage vesicles

- 21. Which of the following inhalational anaesthetics is most likely to produce hepatotoxicity**
- A. Isoflurane
 - B. Enflurane
 - C. Methoxyflurane
 - D. Halothane
 - E. Nitrous oxide
- 22. Atenolol:**
- A. is absolutely selective for β 1-adrenoceptors
 - B. may produce tachycardia as a consequence of its antihypertensive action
 - C. has a beneficial action in patients with obstructive airways disease
 - D. is a relatively selective antagonist of β 1-adrenoceptors
 - E. has antagonist activity at α 1 as well as β adrenoceptors
- 23. Which of the following statements about aspirin is INCORRECT:**
- A. It causes sweating by a direct action on autonomic postganglionic nerves
 - B. It acts in fever to reset the hypothalamic thermostat
 - C. It will not antagonise the hyperthermia of exercise
 - D. It may cause renal papillary necrosis when administered in large doses over several years
 - E. It is likely to cause more gastric bleeding than its paracetamol in equi-analgesic doses
- 24. Which of the following statements about ionised and/or lipid insoluble drugs is INCORRECT:**
- A. They may pass through the small aqueous channels in cell membranes
 - B. They generally do not gain access to cells within the brain except by specific transport mechanisms
 - C. They cross cell membranes less readily than do non-ionised drugs
 - D. Such drugs include the general anaesthetic thiopentone
 - E. Such drugs include the cytokine granulocyte colony stimulating factor (G-CSF)
- 25. Which of the following actions of noradrenaline is due to activation of α receptors**
- A. Dilation of blood vessels in skeletal muscles
 - B. Bronchodilation
 - C. Dilation of the pupil
 - D. Enhanced release of renin from the juxtaglomerular cells of the kidney
 - E. Relaxation of the uterus
- 26. Which statements about antiarrhythmic drugs is INCORRECT:**
- A. In the treatment of certain supraventricular arrhythmias, lignocaine may be administered orally
 - B. Tissue accumulation of amiodarone leads to a range of adverse effects
 - C. In high doses, lignocaine may cause disorientation, convulsions and respiratory arrest
 - D. Verapamil is useful for the treatment of atrial, but not ventricular arrhythmias
 - E. Lignocaine is used almost exclusively to treat ventricular arrhythmias
- 27. Calcium antagonists exert their effects primarily by:**
- A. Inhibiting cyclic nucleotide phosphodiesterases
 - B. Blocking Na^+/K^+ ATPase
 - C. Enhancing the binding of intracellular Ca^{2+} to sarcoplasmic reticulum
 - D. Inhibiting transport through Ca^{2+} channels in the plasma membrane
 - E. Blocking the Na^+ influx associated with the rising phase of the action potential

- 28. The following are H1 receptor antagonists, EXCEPT:**
- A. Diphenhydramine
 - B. Promethazine
 - C. Cimetidine
 - D. Astemizole
 - E. Chlorpheniramine
- 29. Which of the following statements about methotrexate is INCORRECT:**
- A. Methotrexate prevents the formation of one carbon fragments for purine and pyrimidine synthesis
 - B. Methotrexate inhibits NADPH dependent dihydrofolate reductase non competitively
 - C. Methotrexate is rapidly transported into malignant cells by a carrier system
 - D. Methotrexate can be administered orally
 - E. Folinic acid reverses the effect of methotrexate on nucleotide synthesis
- 30. Which one of the following antihypertensive agents is NOT administered orally:**
- A. Methyldopa
 - B. Pindolol
 - C. Nitroprusside
 - D. Frusemide
 - E. Prazosin
- 31. Which of the following best relates directly to speed of induction with a volatile general anaesthetic**
- A. A low blood/gas partition coefficient
 - B. A high brain/blood partition coefficient
 - C. A low partial pressure
 - D. Rapid redistribution into vasculature of skeletal muscle
 - E. Slow metabolism
- 32. Which of the following drugs does NOT reliably induce general anaesthesia**
- A. Isoflurane
 - B. Morphine
 - C. Ketamine
 - D. Thiopentone
 - E. Propofol
- 33. Leukotrienes C₄, D₄ and E₄ cause all of the following effects except:**
- A. Bronchoconstriction
 - B. Vasoconstriction
 - C. Chemotaxis
 - D. Exudation of plasma
 - E. Contraction of gastrointestinal smooth muscle
- 34. Which of the following is NOT a common adverse effect of chlorpromazine**
- A. Hypotension
 - B. Constipation
 - C. Parkinsonian syndrome
 - D. Urinary retention
 - E. Hypersalivation

- 35. Use of an oral contraceptive containing progestogen only:**
- A. Is associated with regular by scanty periodic bleeding from the endometrium
 - B. Is associated with regular periodic heavy bleeding from the endometrium
 - C. Decreases fertility by suppressing gonadotrophin production
 - D. Decreases fertility more effectively than combined progestogen/oestrogen administration
 - E. Decreases fertility less effectively than combined progestogen/oestrogen administration
- 36. Serotonin**
- A. Is synthesised in blood platelets from the amino acid precursor tryptophan
 - B. Is largely metabolised by methylation and hydroxylation
 - C. Is stored in the cytoplasm of chromaffin cells
 - D. Produces platelet aggregation
 - E. Relaxes most gastrointestinal smooth muscle
- 37. Which of the following is NOT an effect of acetylcholine on the heart**
- A. Decreased force of contraction
 - B. Slowed rate of firing of the SA node
 - C. Increased refractory period of the atrial fibres
 - D. Slowed rate of conduction through the AV node
 - E. Decreased heart rate
- 38. Which of the following statements about Huntington's disease is INCORRECT:**
- A. It is characterised by a loss of striatal GABAergic neurones
 - B. It is associated with choreiform movement
 - C. It is treated with dopamine D2 agonists
 - D. It is characterised by normal striatal dopamine levels
 - E. It is associated with hyperactivity of dopaminergic synapses
- 39. Beta-endorphin is:**
- A. Synthesised from pro-dynorphin
 - B. Synthesised in the pituitary
 - C. A respiratory stimulant
 - D. Metabolised to form met-enkephalin
 - E. An endogenous antagonist at opioid receptors
- 40. Conjugation reactions in the body generally result in a drug becoming:**
- A. More lipophilic
 - B. Less polar
 - C. More toxic
 - D. More lipophilic, less polar and more toxic
 - E. More polar and less toxic
- 41. The MAC (minimum alveolar concentration volumes %) of an inhalational general anaesthetic agent:**
- A. Is the minimum concentration required for sleep
 - B. Is inversely related to its solubility in membrane lipids
 - C. Is always low for agents with a rapid rate of induction
 - D. Varies for different individuals
 - E. Bears no relationship to tension (partial pressure) in brain grey matter

- 42. Which antiarrhythmic drug is NOT suitable for treating ventricular arrhythmias**
- A. Lignocaine
 - B. Digoxin
 - C. Propranolol
 - D. Amiodarone
 - E. Sotalol
- 43. Which of the following can be used to reduce potassium loss caused by thiazide diuretics:**
- A. Acetazolamide
 - B. Mannitol
 - C. Triamterene
 - D. Probenecid
 - E. Diazoxide
- 44. The general anaesthetic halothane has all of the following characteristics EXCEPT:**
- A. It is more potent as an anaesthetic than nitrous oxide
 - B. It increases cardiac output
 - C. It causes respiratory depression with increased anaesthetic levels
 - D. It may produce hepatotoxicity
 - E. It is a halogenated alkane
- 45. Indomethacin inhibits the formation of:**
- A. Histamine
 - B. Leukotriene C₄
 - C. Arachidonic acid
 - D. Serotonin
 - E. Prostacyclin
- 46. The following are all antagonists of H1 receptors EXCEPT:**
- A. Mepyramine
 - B. Cyproheptadine
 - C. Diphenhydramine
 - D. Ranitidine
 - E. Promethazine
- 47. Aminophylline has activity as a:**
- A. Bronchodilator
 - B. Cardiac stimulant
 - C. Mild central nervous system stimulant
 - D. Vasodilator
 - E. All of the above
- 48. Which of the following statements about atropine is INCORRECT:**
- A. It is a \pm hyoscyamine
 - B. It is a competitive antagonist of muscarinic receptors
 - C. It can cause hyperthermia in a hot climate
 - D. It is used in the treatment of urinary retention
 - E. It is used in the treatment of poisoning with organophosphorous anti cholinesterase drugs

- 49. The sulphonamides act as chemotherapeutic agents because they:**
- A. Intercalate with DNA
 - B. Inhibit RNA synthesis
 - C. Bind to the plasma membrane
 - D. Are structural analogues of p-aminobenzoic acid
 - E. Chelate various metal ions
- 50. Imipramine:**
- A. Has atropine like actions
 - B. Is a tricyclic structure in which the three rings are planar
 - C. Facilitates the reuptake of noradrenaline into nerve terminals
 - D. Is a beta adrenoceptor antagonist
 - E. Causes anaphylactoid reactions by releasing histamine from tissue stores
- 51. Phenothiazine neuroleptic drugs may produce extrapyramidal side effects because they:**
- A. Deplete dopamine from neurones in the substantia nigra
 - B. Block the enzyme dopa decarboxylase
 - C. Are dopamine receptor antagonists
 - D. Block muscarinic cholinergic receptors in the corpus striatum
 - E. Block α adrenoceptors
- 52. Which of the following antihypertensive drugs would be least suitable for a patient who also has asthma:**
- A. Prazosin
 - B. Hydralazine
 - C. Methyldopa
 - D. Clonidine
 - E. Propranolol
- 53. Which of the following statements about Tacrine is INCORRECT:**
- A. It is associated with renal toxicity
 - B. It is an inhibitor of Acetylcholinesterase
 - C. It is associated with nausea and vomiting
 - D. It is associated with diarrhoea
 - E. It may be used in mild cases of Alzheimer's disease
- 54. Which of the following statements about drugs of abuse is INCORRECT:**
- A. Barbiturates are associated with both pharmacokinetic and pharmacodynamic tolerance
 - B. Amphetamines show a high degree of psychological dependence
 - C. LSD shows rapid tolerance due to 5HT receptor desensitisation
 - D. Crack cocaine may result in pharmacodynamic tolerance by depleting readily releasable monoamines
 - E. Cannabinoids show pharmacodynamic tolerance by uncoupling its receptor from intracellular effectors
- 55. The following are all antagonists of serotonin EXCEPT:**
- A. Methysergide
 - B. Promethazine
 - C. Cyproheptadine
 - D. Ranitidine
 - E. Ondansetron

- 56. Which of the following causes arterial and bronchial constriction and platelet aggregation:**
- A. Prostaglandin E₁
 - B. Prostaglandin E₂
 - C. Prostaglandin F_{2α}
 - D. Prostaglandin D₂
 - E. Thromboxane A₂
- 57. Which of the following statements is INCORRECT concerning the volume of distribution of a drug:**
- A. It is the volume of extracellular fluid in which the drug is in solution
 - B. It is inversely proportional to the concentration of the drug in the plasma
 - C. It is proportional to the total amount of drug in the body
 - D. It may correspond to a physiological concept such as plasma volume or total body water
 - E. It may be one or two orders of magnitude greater than the volume of body water
- 58. Which of the following is NOT a characteristic of a voltage sensitive channel:**
- A. A voltage sensor is present
 - B. Ion selectivity is determined by amino acids at the extracellular surface
 - C. There are four homologous domains surrounding a central pore
 - D. It only allows passage of Na⁺ or Ca²⁺ ions
 - E. It is a membrane spanning protein structure
- 59. Which of the following substances is NOT relatively selective for β₂ adrenoceptors:**
- A. Terbutaline
 - B. Eformoterol
 - C. Salbutamol
 - D. Salmeterol
 - E. Phenylephrine
- 60. Which one of the following statements is INCORRECT:**
- A. Gold salts such as aurothioglucose may be used to treat rheumatoid arthritis in patients intolerant to aspirin
 - B. Colchicine is used for the treatment and prevention of gouty arthritis
 - C. Peptic ulceration is a frequent side effect of high chronic dosage with anti inflammatory steroids
 - D. Glucocorticoids inhibit the synthesis of COX-1
 - E. The most common side effects of orally administered salicylates is irritation of the gastric mucosa
- 61. Which of the following is NOT an effect of substance P:**
- A. A fall in blood pressure
 - B. Stimulation of peristalsis
 - C. Decrease in capillary permeability
 - D. Diuresis
 - E. Stimulation of salivary secretion
- 62. Oral contraceptives least likely to cause acne in susceptible women contain:**
- A. Progestogen (with high androgenic potency) plus oestrogen
 - B. Progestogen (with high androgenic potency) only
 - C. Progestogen (with low androgenic potency) only
 - D. Progestogen (with low androgenic potency) plus oestrogen
 - E. Progestogen with an iron supplement

- 63. The intravenous injection of carbachol in an atropinized dog may produce a rise in blood pressure because carbachol:**
- A. Has nicotinic actions
 - B. Potentiates the pressor effects of noradrenaline
 - C. Has some direct sympathomimetic actions
 - D. Delays the uptake of noradrenaline
 - E. Is not destroyed by cholinesterase
- 64. Which of the following statements is INCORRECT:**
- A. Lipid soluble drugs are readily absorbed across mucous membranes
 - B. Acidic drugs are ionised to a greater extent in an acidic environment
 - C. Basic drugs are ionised to a greater extent in an acidic than in a basic environment
 - D. In general most drugs are made more polar by metabolism
 - E. Lipid soluble compounds are reabsorbed across the tubular membranes in the kidney
- 65. Which of the following statements about sodium valproate is incorrect:**
- A. It is effective in tonic/clonic epilepsy
 - B. It is effective in absence epilepsy
 - C. It increases brain concentrations of GABA
 - D. Shares a similar mode of action to phenytoin
 - E. It may enhance the effect of phenobarbitone administered concurrently
- 66. The features of congestive cardiac failure do NOT include:**
- A. Oedema
 - B. Bradycardia
 - C. Cyanosis
 - D. Dyspnoea
 - E. Increased venous pressure
- 67. Which of the following is NOT a true statement for serotonin**
- A. It directly contracts bronchial smooth muscle
 - B. It causes platelet aggregation
 - C. It is synthesised by platelets
 - D. It can cause vasoconstriction
 - E. It is synthesised in enterochromaffin cells
- 68. Aspirin may precipitate asthma in sensitive subjects. The most likely explanation is that aspirin:**
- A. Decreases the threshold of bronchial reactivity to prostaglandin $F_{2\alpha}$
 - B. Has beta adrenoceptor blocking activity
 - C. Releases histamine from mast cells
 - D. Increases the formation of leukotriene D_4 in lung tissue
 - E. Increases renal clearance of endogenous adrenaline
- 69. The resynthesis of acetylcholine released from nerve endings is prevented by:**
- A. Hemicholinium
 - B. Botulinum toxin
 - C. Tetrodotoxin
 - D. Physostigmine
 - E. Edrophonium

- 70. The signs of poisoning with organophosphorous anticholinesterase insecticides do NOT include:**
- A. Bronchoconstriction
 - B. Muscle fasciculation
 - C. Mydriasis
 - D. Intestinal spasm
 - E. Increased bronchial secretions
- 71. The most appropriate way to achieve an effective blood level of penicillin promptly is by:**
- A. An oral dose of phenoxymethylpenicillin
 - B. An intramuscular injection of procaine penicillin
 - C. An intramuscular injection of benzylpenicillin
 - D. An intravenous injection of benzathine penicillin
 - E. An intravenous injection of procaine penicillin
- 72. Histamine H1 receptor antagonists:**
- A. Prevent the release of histamine from mast cells
 - B. Prevent the release of acid from the stomach
 - C. Are devoid of anti cholinergic activity
 - D. Are free of side effects in therapeutic doses
 - E. Are effective in the treatment of hay fever
- 73. Lignocaine is NOT:**
- A. Used as an infiltration agent
 - B. Used as an antiarrhythmic
 - C. Hydrolysed by plasma pseudochoolinesterase
 - D. An amino amide
 - E. Used topically
- 74. Which of the following local anaesthetics is useful for topic (surface) administration only:**
- A. Procaine
 - B. Bupivacaine
 - C. Amethocaine
 - D. Benzocaine
 - E. Lignocaine
- 75. Steroids prevent all of the following inflammatory events in asthma except:**
- A. IL-4 dependent B cell IgE production
 - B. Production of the chemokine eotaxin
 - C. IL-5 production from Th2 cells
 - D. Activation of NF κ B by TNF α
 - E. Adhesion of leukocytes to inflamed venules in the airways mucosa
- 76. Which of the following statements about benzodiazepines is INCORRECT:**
- A. Diazepam undergoes hepatic N dealkylation to nordiazepam, and metabolism continues to oxazepam
 - B. Oxazepam is an appropriate hypnotic drug when daytime anxiety is present, since it is converted to active metabolites
 - C. The mechanism of action of benzodiazepines is related to an allosteric action at postjunctional GABA_A receptors
 - D. Diazepam has anticonvulsant and central muscle relaxant activity
 - E. Benzodiazepines suppress REM sleep

77. Which of the following drugs is used for the treatment of severe chronic inflammatory disorders, with special precautions to guard against the development of irreversible retinopathy:
- A. Auranofin
 - B. Chloroquine
 - C. Allopurinol
 - D. Indomethacin
 - E. Prednisolone
78. Tolbutamide is:
- A. A highly specific inhibitor of catechol-o-methyltransferase
 - B. A potent inhibitor of iodide accumulation by the thyroid and salivary glands
 - C. An anti androgen with potent progestational activity
 - D. A promoter of insulin release from the pancreas
 - E. An oxytocic substance used to reduce uterine bleeding after delivery
79. In general, a drug with a volume of distribution of 0.6L/kg:
- A. Is selectively bound to constituents of tissues
 - B. Is bound to a high degree to plasma protein
 - C. Is taken up selectively by tissue cells
 - D. Crosses cell membranes, is not bound to tissue components and is not selectively taken up by any cells
 - E. Crosses capillary endothelium but not cell membranes and is not protein bound or lipid soluble
80. A 26 year old male presents with testicular cancer and chemotherapy with cis platinum is initiated. Which agent is most likely to be useful to control the severe nausea and emesis associated with the use of this drug:
- A. Meclazine
 - B. Dexamethasone
 - C. Cyproheptadine
 - D. Ondansetron
 - E. Promethazine
81. Dyflos produces a prolonged cholinergic action by:
- A. Decreasing cholinesterase production
 - B. Hydrolyzing cholinesterase
 - C. Intrinsic stimulation of cholinceptor sites
 - D. Forming a stable complex with cholinesterase
 - E. Combining irreversibly with cholinceptor sites
82. Which statement about digitalis glycosides is INCORRECT:
- A. They increase the force of myocardial contraction
 - B. They are useful in the treatment of atrial arrhythmias
 - C. They slow atrioventricular conduction
 - D. They are useful in the treatment of ventricular arrhythmias
 - E. They are useful in the treatment of congestive cardiac failure

83. Epileptic seizures are NOT controlled by:

- A. Clonazepam
- B. Carbamazepine
- C. Phenytoin
- D. Primidone
- E. Levodopa

84. K⁺ ion channels sensitive to intracellular ATP, i.e. K⁺_{ATP} channels:

- A. Are found in pancreatic beta islet cells and are activated by glibenclamide
- B. Are found on vascular smooth muscle and are blocked by diazoxide
- C. Control K⁺ entry into the cells
- D. Are opened by cromakalim to cause hyperpolarisation
- E. Are not found in the myocardium

85. Which of the following statements about angiotensin II is correct:

- A. It causes a profound fall in blood pressure resulting in shock
- B. It constricts blood vessels
- C. It stimulates gastric acid secretion
- D. It inhibits release of aldosterone
- E. It is responsible for the inactivation of bradykinin

86. Which of the following drugs should NOT be used in the treatment of gout:

- A. Indomethacin
- B. Probenecid
- C. Allopurinol
- D. Aspirin
- E. Paracetamol

87. Which of the following statements about enalaprilat (enalaprilic acid) is INCORRECT:

- A. It inhibits the conversion of the decapeptide angiotensin I to the octapeptide angiotensin II
- B. It inhibits a carboxydipeptidase
- C. It is a competitive enzyme inhibitor
- D. It is well absorbed orally
- E. It lowers blood pressure

88. Which of the following is NOT used to treat an acute migraine attack:

- A. Codeine
- B. Methysergide
- C. Metaclopramide
- D. Ergotamine
- E. Aspirin

89. The following may induce bronchospasm in asthmatics EXCEPT:

- A. Propranolol
- B. Atropine
- C. Aspirin
- D. Exercise
- E. Histamine

90. Penicillin acts by:

- A. Inhibition of DNA synthesis
- B. Facilitation of cross linkage in the cell wall
- C. Alteration of binding sites on sterols
- D. Inhibition of a transpeptidase
- E. Altering the RNA template

91. Tranylcypromine

- A. Is a non hydrazine monoamine oxidase inhibitor
- B. Has sympathomimetic activity
- C. In combination with certain foodstuffs may produce a hypertensive crisis
- D. Is an effective antidepressant drug
- E. All of the above

92. Propranolol does NOT:

- A. Possess β antagonist activity
- B. Possess significant intrinsic sympathomimetic activity
- C. Possess membrane depressant activity
- D. Decrease automaticity at the SA node and ectopic foci
- E. Decrease conduction velocity in the AV node

93. Acute migraine is most likely to respond to:

- A. Sumatriptan
- B. Fenclonine
- C. Cisapride
- D. Ketanserin
- E. Buspirone

94. Which statement about digoxin is INCORRECT:

- A. It reduces the intracellular levels of Na^+
- B. It reduces Ca^{2+} efflux from cardiac cells
- C. It binds to a phosphorylated form of Na^+/K^+ ATPase
- D. It has a low therapeutic margin of safety
- E. It produces a positive inotropic response in failing hearts

95. The termination of the nerve block following infiltration with procaine depends primarily on:

- A. Diffusion away from the site of the injection
- B. Oxidation by procaine deaminase
- C. Hydrolysis by pseudocholinesterase
- D. Urinary excretion of the free drug
- E. Metabolism in the liver

96. Intravenous administration:

- A. Is too slow for emergency use
- B. Cannot be used with unconscious patients
- C. Usually produces a slower response than does oral administration
- D. Generally results in more precisely determined effects than does oral administration
- E. Is the cheapest route for drug administration

97. Metaclopramide:

- A. produces diarrhoea because it stimulates peristalsis
- B. Inhibits gastric emptying thus making it easier to delineate gastric ulcers radiologically after a barium meal
- C. Is more useful than hyoscine in the treatment of motion sickness
- D. May cause exacerbation of symptoms in Parkinsonian patients
- E. Blocks the effect of pilocarpine on salivary excretion

98. The selectivity of acyclovir for certain Herpes viruses is due primarily to:

- A. Its selectivity for the viral reverse transcriptase enzyme
- B. Its irreversible inhibition of Herpes DNA polymerase
- C. Its structural similarity to the nucleoside thymidine
- D. Its selectivity for Herpes DNA polymerase
- E. Inhibition of translation of viral proteins

99. Which of the following statements about captopril is INCORRECT:

- A. It inhibits the conversion of the decapeptide angiotensin I to the octapeptide angiotensin II
- B. It inhibits the synthesis of substance P
- C. It inhibits the inactivation of bradykinin
- D. It is well absorbed orally
- E. It is used as an antihypertensive drug

100. Which of the following antacid drugs as all these properties: (a) is non systemic, (b) is neutralising, (c) is liable to cause constipation:

- A. Sodium bicarbonate
- B. Magnesium hydroxide
- C. Magnesium trisilicate
- D. Aluminium hydroxide
- E. All of the above

101. Acyclovir is not:

- A. Active against herpes simplex type I
- B. Given orally
- C. Active against herpes simplex type II
- D. A purine analogue
- E. A pyrimidine analogue

102. Endothelin:

- A. Is rapidly inactivated in part due to binding to haemoglobin
- B. Is synthesised exclusively by endothelial cells
- C. Inhibits responses to vasoconstrictor agents such as angiotensin II
- D. Stimulates the release of the vasodilators NO and prostacyclin
- E. Has an enzyme as its primary molecular target

103. The side effects associated with tricyclic antidepressant therapy DO NOT include:

- A. Tachycardia
- B. Dry mouth
- C. Sweating
- D. Hypertension
- E. Blurred vision

104. Serotonin

- A. Can increase small intestinal motility
- B. Is metabolised by monoamine oxidase
- C. Is implicated in anxiety disorders
- D. Causes vasoconstriction
- E. All of the above

105. The anti anginal vasodilator drug GTN is administered as a transdermal patch or sublingual tablet rather than via the oral (swallowed) route because:

- A. It is not absorbed across the mucous membranes of the stomach or intestines
- B. It causes severe vomiting
- C. It enters an enterohepatic shunt
- D. It is rapidly metabolised by the liver
- E. It is destroyed by the bacterial flora of the gastrointestinal tract

106. Low doses of aspirin can be used to selectively block platelet cyclooxygenase (COX) over the enzyme in arterial endothelial cells because:

- A. Platelet COX is acetylated by aspirin more quickly than that of arterial endothelial cells
- B. The platelet enzyme is irreversibly inhibited, while the endothelial enzyme is reversibly inhibited
- C. Endothelial cells can resynthesise COX and hence recover from aspirin quickly
- D. Aspirin is a pro drug and platelets rapidly convert aspirin to its active form
- E. Aspirin has a very long half life

107. Which one of the following drugs would be contraindicated in the treatment of phaeochromocytoma

- A. Phentolamine
- B. Propranolol
- C. Phenoxybenzamine
- D. Guanethidine
- E. Prazosin

108. Which of the following drugs is NOT used in the management of malaria:

- A. Doxycycline
- B. Sulphadoxine
- C. Streptomycin
- D. Quinine
- E. Pyrimethamine

109. IgE triggers mast cells using the following signal transduction intermediates EXCEPT:

- A. IP3 (inositol triphosphate)
- B. Lyn
- C. Stem cell factor/c-kit tyrosine kinase
- D. Syk
- E. Ca²⁺

110. Which of the following statements about buspirone is correct:

- A. It binds to dopamine and 5HT receptors in the central nervous system
- B. It has marked sedative activity
- C. It is chemically related to benzodiazepines
- D. It causes marked central nervous system depression when combined with alcohol
- E. It possesses muscle relaxant activity

- 111. The secretion of gastric hydrochloric acid can be inhibited by:**
- A. Pentagastrin
 - B. Promethazine
 - C. Aluminium hydroxide
 - D. Ranitidine
 - E. Magnesium hydroxide
- 112. Abnormally high urinary 5 hydroxyindole acetic acid (5-HIAA) suggests possible carcinoid tumor:**
- A. True
 - B. False
- 113. Lithium:**
- A. Is used in the treatment of anxiety
 - B. Produces extra pyramidal side effects
 - C. Inhibits the re uptake of noradrenaline into adrenergic nerve terminals
 - D. May cause renal toxicity in very high doses
 - E. Is used in the treatment of unipolar depression
- 114. Astemizole and terfenadine may cause fatal arrhythmia when used in combination with some macrolides or antifungal agents:**
- A. By lengthening QT interval via direct action on cardiac H₂ receptors
 - B. Increasing metabolism of macrolide antibiotics
 - C. Forming cardiotoxic complexes with, for example, ketaconazole
 - D. Due to accumulation following inhibition of CYP3A4, a cytochrome p450 enzyme
 - E. Exacerbating histamine induced hypotension causing increased cardiac oxygen demand during reflex tachycardia
- 115. Which of the following statements about oxazepam is INCORRECT:**
- A. It is a short acting benzodiazepine
 - B. Enhances GABA activity
 - C. It does not produce respiratory depression with overdose
 - D. It is an active metabolite of nitrazepam
 - E. It does not produce severe hangover effects when used as an hypnotic
- 116. Guanethidine lowers blood pressure by**
- A. Directly relaxing vascular smooth muscle
 - B. Impairing the release of transmitter noradrenaline from sympathetic nerve endings
 - C. Blocking vascular α receptors
 - D. Inhibiting tyrosine hydroxylase in the biosynthetic pathway for noradrenaline
 - E. Inhibiting the neuronal reuptake of transmitter noradrenaline
- 117. The bioavailability of a preparation of a drug is a measure of:**
- A. The relative toxicity of the preparation to laboratory animals
 - B. The stability of the preparation
 - C. The proportion of active drug appearing in the plasma
 - D. The acceptability of the preparation to the patient
 - E. The availability of the drug from natural sources

118. Which of the following statements about imipramine is INCORRECT:

- A. It can produce tachycardia and cardiac arrhythmias
- B. It antagonises some of the actions of histamine
- C. It can produce dry mouth
- D. Has alpha adrenergic properties
- E. It is an antidepressant and a potent inhibitor of monoamine oxidase

119. H2 autoreceptors on mast cells

- A. Increase degranulation by mobilising calcium
- B. Cause PLC (phospholipase C) activation
- C. Stimulate cAMP and inhibits degranulation
- D. Are readily blocked by promethazine
- E. Are located on intracellular calcium stores

120. Fenclonine and fluoxetine are useful to treat some CNS disorders because they increase serotonin levels in the synapse of serotonergic neurones

- A. True
- B. False

121. Which of the following statements about antacids is INCORRECT:

- A. Excessive intake of calcium carbonate may result in hypercalcemia
- B. Excessive intake of aluminium hydroxide may result in hypophosphatemia
- C. Magnesium hydroxide causes constipation
- D. Sodium bicarbonate is a systemic antacid
- E. Acid rebound may result after cessation of antacids such as calcium carbonate

122. Stabilisation of excitable membranes by local anaesthetic agents is most likely associated with:

- A. A reduction in K^+ permeability at the onset of the action potential
- B. An increase in K^+ permeability at the onset of the action potential
- C. A reduction in Na^+ permeability at the onset of the action potential
- D. A shift in the resting membrane potential from 90mV towards 0mV
- E. An increase in permeability to all ions during the action potential

123. Which of the following is most likely to be a therapeutic effect of a dermatological agent:

- A. Staining or pigmentation
- B. Irritant contact dermatitis
- C. Hypopigmentation
- D. Cytotoxicity
- E. Allergic contact dermatitis

124. Which of the following statement about laxatives is INCORRECT:

- A. Excessive use of bisacodyl may cause atonic colon
- B. Dietary fibre such as bran enhances water retention by faeces
- C. Excessive use of magnesium sulphate (Epsom salts) may cause dehydration
- D. Liquid paraffin is an irritant laxative
- E. Glycerine suppositories soften faeces

125. Which of the following statements is INCORRECT:

- A. Cardiac sympathetic nerves release noradrenaline as a transmitter
- B. Noradrenaline is stored in vesicles
- C. Reserpine affects the storage of noradrenaline in vesicles
- D. Prazosin blocks prejunctional α_2 receptors and thereby disrupts autoinhibition of noradrenergic transmission
- E. Reserpine lowers blood pressure

126. The rapidity of recovery of a single dose of thiopentone is due to:

- A. Rapid excretion by the kidney
- B. Enzymatic degradation by the liver
- C. Redistribution in body tissues
- D. Plasma binding
- E. A combination of metabolism and excretion

END OF EXAM

1997 PRACTICE PHARMACOLOGY MCQ: PART A – ANSWERS

1 C	41 B	81 D	121 C
2 D	42 B	82 D	122 C
3 B	43 C	83 E	123 D
4 D	44 B	84 D	124 D
5 B	45 E	85 B	125 D
6 D	46 D	86 D	126 C
7 C	47 E	87 D	
8 C	48 D	88 B	
9 D	49 D	89 B	
10 C	50 A	90 D	
11 C	51 C	91 E	
12 C	52 E	92 B	
13 D	53 A	93 A	
14 A	54 E	94 A	
15 E	55 D	95 A	
16 E	56 E	96 D	
17 C	57 A	97 D	
18 C	58 D	98 D	
19 D	59 E	99 B	
20 A	60 D	100 D	
21 D	61 C	101 E	
22 D	62 D	102 D	
23 A	63 A	103 D	
24 D	64 B	104 E	
25 C	65 C	105 D	
26 A	66 B	106 C	
27 D	67 C	107 D	
28 C	68 D	108 C	
29 C	69 A	109 C	
30 C	70 C	110 A	
31 A	71 C	111 D	
32 B	72 E	112 A	
33 C	73 C	113 D	
34 E	74 D	114 D	
35 E	75 A	115 D	
36 D	76 B	116 B	
37 C	77 B	117 C	
38 C	78 D	118 E	
39 B	79 D	119 C	
40 E	80 D	120 A	