

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

PART C

For the following questions, answer:

- A. True, True and the reason is a correct explanation
- B. True, True and the reason is NOT a correct explanation
- C. True, False
- D. False, True
- E. False, False

1. Drugs having a high affinity for plasma protein binding sites are readily filtered across the glomerular membranes
BECAUSE
Drugs having a high affinity for plasma protein binding sites may be secreted by an active transport mechanism into the renal tubes
2. Antimuscarinic drugs are never combined with neuroleptic drugs in patients being treated for schizophrenia
BECAUSE
Antimuscarinic drugs worsen the extrapyramidal symptoms caused by neuroleptic drugs
3. Salbutamol when administered by aerosol at recommended doses is likely to cause tachycardia
BECAUSE
Salbutamol stimulates β_2 adrenoceptors in the heart
4. Homatropine is not used as a mydriatic drug
BECAUSE
Homatropine has a much shorter duration of action as a mydriatic drug than atropine
5. The urinary excretion of aspirin is increased if it is taken with sodium bicarbonate
BECAUSE
Aspirin is more soluble in alkaline than in neutral solutions
6. Capsaicin decreases sensitivity to painful stimuli
BECAUSE
Capsaicin causes an initial release of substance P from primary afferent neurones
7. Isosorbide dinitrate should not be taken orally (swallowed) for treatment of angina
BECAUSE
Isosorbide dinitrate is completely inactivated by first pass metabolism
8. Cardiac glycosides are not used to treat atrial arrhythmias
BECAUSE
Cardiac glycosides can cause ventricular arrhythmias
9. Some red wines produce a hypertensive crisis in patients treated with some monoamine oxidase inhibitors
BECAUSE
Some red wines contain considerable amounts of tyramine
10. Thiopentone has a brief duration of action
BECAUSE
Thiopentone is rapidly metabolised in the liver

For the following questions, answer:

- A. True, True and the reason is a correct explanation
- B. True, True and the reason is NOT a correct explanation
- C. True, False
- D. False, True
- E. False, False

11. Histamine H1 receptor antagonists block the effects of histamine on bronchial smooth muscle
BECAUSE
H1 receptor antagonists block the release of histamine from basophils in the alveolar circulation
12. Norfloxacin (a fluroquinolone) is effective against urinary tract infections
BECAUSE
Norfloxacin is metabolised in the liver to an active metabolite
13. Phenobarbitone could be used in treating neonatal jaundice
BECAUSE
Phenobarbitone induces microsomal enzyme activity in the liver
14. Prostacyclin is an unstable metabolite of arachidonic acid
BECAUSE
Prostacyclin is rapidly inactivated during its passage through the lungs
15. Histamine can cause headache
BECAUSE
Histamine causes constriction of cerebral blood vessels
16. Procaine has a relatively short duration of local anaesthetic action
BECAUSE
Procaine is rapidly excreted by the kidney
17. Salbutamol raises blood pressure
BECAUSE
Salbutamol is a β_2 adrenoceptor agonist
18. Cimetidine inhibits gastric acid secretion evoked by histamine
BECAUSE
Cimetidine is a partial agonist on histamine H2 receptors
19. Phenobarbitone increases the plasma levels of digoxin
BECAUSE
Phenobarbitone decreases metabolism of digoxin
20. Tetracyclines should not be used in young children
BECAUSE
Tetracyclines permanently discolour teeth if given during enamel development
21. Histamine may be used to test the integrity of cutaneous sensory nerves
BECAUSE
Histamine stimulates peripheral nerve endings causing itch and flare of the triple response
22. Atropine is used for the treatment of poisoning with organophosphorus anticholinesterases
BECAUSE
Atropine antagonises the action of acetylcholine at the somatic neuromuscular junction

For the following questions, answer:

- A. True, True and the reason is a correct explanation
- B. True, True and the reason is NOT a correct explanation
- C. True, False
- D. False, True
- E. False, False

23. Atropine may decrease skeletal muscle blood flow
BECAUSE
Atropine blocks muscarinic receptors in blood vessels in skeletal muscle which are innervated by parasympathetic nerve fibres
24. Phenobarbitone sodium is useful as an induction anaesthetic
BECAUSE
Phenobarbitone sodium is rapidly metabolised in the liver
25. Ondansetron commonly produces extrapyramidal side effects
BECAUSE
Like metaclopramide, ondansetron block 5HT₃ receptors and dopamine receptors with high affinity in the area postrema chemoreceptor trigger zone
26. Propranolol is useful for treating cardiac arrhythmias
BECAUSE
Propranolol has a membrane stabilising action
27. Phenothiazines such as chlorpromazine are useful for treating drug induced parkinsonian symptoms
BECAUSE
Phenothiazines such as chlorpromazine antagonise the effects of dopamine in the basal ganglia
28. Probenecid increases the plasma half life of penicillin
BECAUSE
Probenecid competes with penicillin for active secretion into renal tubular fluid
29. Beclomethasone diprionate aerosol is an effective anti inflammatory agent
BECAUSE
Beclomethasone inhibits transcription of inflammatory cytokine genes by MLCK activity
30. Chlorpromazine causes greater sedation than trifluoperazine in therapeutic doses
BECAUSE
Chlorpromazine is a more potent antipsychotic agent than trifluoperazine
31. The concentration of an inhalational anaesthetic supplied to the patient is lower during maintenance of anaesthesia than during induction
BECAUSE
The distribution of inhalational anaesthetics within the body approaches equilibrium during maintenance of anaesthesia
32. Phenytoin may alter the effectiveness of oral contraceptives
BECAUSE
Phenytoin induces cytochrome p450 enzymes
33. Glibenclamide is used in the treatment of insulin dependent diabetes (Type I diabetes)
BECAUSE
Glibenclamide stimulates glucose uptake by muscle and increases glycolysis

For the following questions, answer:

- A. True, True and the reason is a correct explanation
- B. True, True and the reason is NOT a correct explanation
- C. True, False
- D. False, True
- E. False, False

34. Phenobarbitone increases the depressant effect of alcohol
BECAUSE
Phenobarbitone inhibits alcohol dehydrogenase
35. Cocaine is never used topically as a local anaesthetic
BECAUSE
Cocaine has effects on the central nervous system which may induce dependence
36. Penicillins should (generally) not be used clinically in conjunction with tetracyclines
BECAUSE
Penicillins activity is negated by tetracyclines which inhibit the growth of fast dividing cells
37. Digoxin is beneficial in the treatment of congestive heart failure
BECAUSE
Digoxin increases renal blood flow
38. Mianserin may produce significant benefit in depressive illness
BECAUSE
Mianserin is a potent inhibitor of neuronal reuptake of noradrenaline
39. Minimum alveolar concentration of a general anaesthetic drug is an index of potency
BECAUSE
Minimum alveolar concentration is the concentration at which the drug begins to diffuse into the blood
40. The anticholinergic drug hyoscine N butyl bromide may produce a dry mouth as a side effect
BECAUSE
The anticholinergic drug hyoscine N butyl bromide readily crosses the blood brain barrier
41. Clavulanic acid is used in combination with amoxicillin
BECAUSE
Clavulanic acid blocks the excretion of amoxicillin by the kidney
42. Thiazide diuretics are useful in treating hypertension
BECAUSE
Thiazide diuretics increase glomerular filtration rate and reduce renin secretion
43. Antimuscarinic drugs may be used as premedication for surgical anaesthesia
BECAUSE
Antimuscarinic drugs reduce bronchial secretions
44. Verapamil is thought to relieve exertional angina primarily by causing dilation of the coronary arteries
BECAUSE
Angina ischaemic pain results from inadequate perfusion of cardiac muscle for a given work load
45. Tranycypromine increases brain levels of catecholamines and serotonin
BECAUSE
Tranycypromine is a monoamine oxidase inhibitor

For the following questions, answer:

- A. True, True and the reason is a correct explanation
- B. True, True and the reason is NOT a correct explanation
- C. True, False
- D. False, True
- E. False, False

46. Histamine may be the final common mediator of gastric acid secretion
BECAUSE
Histamine H₂ antagonists can block gastric acid secretion induced by vagal stimulation and pentagastrin
47. Sodium cromoglycate is effective in treating an established attack of allergen induced asthma
BECAUSE
Sodium cromoglycate stabilises mast cells so that the tendency for release of mediators is reduced
48. Captopril causes a fall in blood pressure
BECAUSE
Captopril prevents conversion of angiotensin I to angiotensin II
49. Sulphonamides should be given with an agent which acidifies the urine
BECAUSE
Sulphonamides are more soluble in acid solutions and kidney damage is thereby prevented
50. Prazosin lowers blood pressure
BECAUSE
Prazosin acts directly on vascular smooth muscle to cause vasodilation
51. Benzodiazepines which are long acting should not be taken often in large doses by the elderly
BECAUSE
Benzodiazepines may produce tolerance and dependence
52. Neostigmine is commonly used to reverse neuromuscular blockade with suxamethonium
BECAUSE
Neostigmine is a competitive antagonist of the nicotinic receptors at the neuromuscular junction
53. Glycosides increase the force of contraction of heart muscle
BECAUSE
Glycosides slow conduction between atria and ventricles
54. Cyproheptadine is useful in the treatment of carcinoid syndrome
BECAUSE
Cyproheptadine blocks H₁ and 5HT receptors
55. Aspirin is proposed for use in the prophylaxis of thromboembolic disorders
BECAUSE
Aspirin in low doses selectively inhibits thromboxane A₂ formation in platelets
56. Organic nitrate compounds with anti anginal activity decrease the work done by the heart
BECAUSE
Organic nitrates with anti anginal activity dilate blood vessels, lower peripheral resistance and increase venous capacitance

For the following questions, answer:

- A. True, True and the reason is a correct explanation
- B. True, True and the reason is NOT a correct explanation
- C. True, False
- D. False, True
- E. False, False

57. Chlorpromazine is more likely than haloperidol to cause sedation in patients treated for schizophrenia
BECAUSE
Chlorpromazine is a more potent dopamine receptor antagonist than haloperidol
58. Prostaglandin $F_{2\alpha}$ cannot be used to cause evacuation of the uterine contents during the second trimester of pregnancy
BECAUSE
Prostaglandin $F_{2\alpha}$ will produce expulsive contractions in the uterus only at full term
59. Cardiac glycosides decrease tachycardia in cardiac failure
BECAUSE
Cardiac glycosides have β antagonist activity
60. Prazosin lowers blood pressure
BECAUSE
Prazosin acts directly on vascular smooth muscle rather than a receptor to cause dilation
61. Ranitidine is used in the treatment of motion sickness
BECAUSE
Ranitidine blocks histamine H1 receptors and muscarinic receptors
62. Potassium supplements should be given routinely to all patients taking any diuretic
BECAUSE
An increased sodium load presented to the distal tubule tends to cause increased secretion of potassium
63. Nitrous oxide has a rapid onset of action when used in general anaesthesia
BECAUSE
Nitrous oxide is relatively insoluble in blood
64. Methotrexate impairs DNA synthesis and thereby reduces cell proliferation
BECAUSE
Methotrexate inhibits the enzyme dihydrofolate reductase
65. Glyceryl trinitrate can exacerbate an attack of angina
BECAUSE
The fall in blood pressure may be sufficiently large to reduce coronary blood flow
66. Thiazide diuretics treatment may cause patients to become more sensitive to the toxic action of cardiac glycosides
BECAUSE
Thiazide diuretics induce potassium depletion
67. Pilocarpine eye drops will cause vasodilation of the conjunctival blood vessels
BECAUSE
Pilocarpine blocks the parasympathetic innervation to the conjunctival blood vessels

1997 PRACTICE PHARMACOLOGY MCQ: PART C – ANSWERS

1 D	21 A	41 C	61 E
2 E	22 C	42 C	62 D
3 D	23 C	43 A	63 A
4 D	24 E	44 D	64 A
5 B	25 E	45 A	65 A
6 D	26 B	46 A	66 A
7 E	27 D	47 D	67 C
8 D	28 A	48 A	
9 A	29 C	49 E	
10 C	30 C	50 C	
11 C	31 A	51 B	
12 C	32 A	52 E	
13 A	33 E	53 B	
14 C	34 C	54 A	
15 C	35 D	55 C	
16 C	36 A	56 A	
17 D	37 C	57 C	
18 C	38 C	58 E	
19 E	39 C	59 C	
20 A	40 C	60 C	