

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

PART B

Choose the correct answer from the list given (answers may be repeated)

The following information relates to questions 1 – 5:

- A. Clavulanic acid
- B. Aztreonam (a monobactam)
- C. Penicilloic acid
- D. Ceftriaxone
- E. Bacitracin

- 1. Is a polypeptide antibiotic used for topical application**
- 2. Is a 3rd generation cephalosporin used to treat meningitis**
- 3. Inhibits beta lactamase and is often combined with penicillin**
- 4. Is well absorbed after oral administration**
- 5. Has a structure comprising a single ring**

The following information relates to questions 6 – 10:

- A. Glyceryl trinitrate
- B. Amyl nitrite
- C. Nifedipine
- D. Propranolol
- E. Isosorbide dinitrate

- 6. Acts mainly by inhibition of calcium channels**
- 7. Is an orally active nitrovasodilator**
- 8. Is the drug most commonly used for the acute treatment of angina attacks**
- 9. Is effective for exertional angina but may increase the severity of angina at rest**
- 10. May be administered percutaneously in the prophylaxis of nocturnal angina**

The following information relates to questions 11 – 15:

- A. Oxymetazoline
- B. α methyl noradrenaline
- C. Prazosin
- D. Atenolol
- E. Phenylephrine

- 11. Is a relatively selective antagonist of β_1 adrenoceptors**
- 12. Is a non selective α adrenoceptor agonist**
- 13. Is a selective α_2 adrenoceptor agonist centrally acting to lower blood pressure**
- 14. Is a short acting α_1 adrenoceptor agonist**
- 15. Is an antihypertensive agent acting to competitively antagonise α_1 adrenoceptors**

The following information relates to questions 16 – 20:

- A. Acetylcholine
- B. Bethanechol
- C. Pirenzepine
- D. Dyflos
- E. Atropine

- 16. Is used in the treatment of urinary retention**
- 17. Is used in the treatment of gastrointestinal spasm**
- 18. Is a selective M1 muscarinic antagonist**
- 19. Is an irreversible anticholinesterase**
- 20. Is a non selective antagonist at muscarinic receptors**

The following information relates to questions 21 – 25:

- A. Digoxin
- B. Amiodarone
- C. Lignocaine
- D. Verapamil
- E. Atropine

- 21. Is a class III antiarrhythmic which prolongs the duration of the action potential**
- 22. Slows the rate of firing of pacemaker cells in the sinoatrial node and increases refractory period in the AV node**
- 23. Undergoes first pass hepatic metabolism so is not given orally**
- 24. Blocks sodium entry into myocardial cells during depolarisation**
- 25. Is a muscarinic receptor antagonist used to treat sinus bradycardia**

The following information relates to questions 26 – 30:

- A. Bradykinin
- B. Prekallikrein
- C. Prostacyclin
- D. Angiotensin I
- E. Substance P

- 26. Is a proenzyme converted to an active enzyme by activated Hageman factor (Factor XII)**
- 27. Is a decapeptide released from plasma alpha-globulins by renin**
- 28. Is a peptide which influences intestinal motility and neurotransmission in the spinal cord**
- 29. Is a derivative of arachidonic acid which dilates vessels and inhibits platelet aggregation**
- 30. Is a potent vasodilator and algesic substance released from kininogens**

The following information relates to question 31 – 35:

- A. Moclobemide
- B. Fluoxetine
- C. Oxazepam
- D. Imipramine
- E. Lithium

- 31. Is a selective serotonin reuptake inhibitor used in the treatment of depression**
- 32. Is a short acting benzodiazepine without active metabolites**
- 33. Is a tricyclic antidepressant**
- 34. Is mainly used to treat bipolar depression**
- 35. Is a reversible monoamine oxidase A inhibitor**

The following information relates to questions 36 – 40:

- A. Metronidazole
- B. Chloramphenicol
- C. Isoniazid
- D. Idoxuridine
- E. Pyrimethamine

- 36. Is a pyrimidine analogue used for treatment of herpes simplex infections of the eye**
- 37. Is given by oral or rectal administration prior to bowel surgery to prevent post operative wound infections**
- 38. Is a diaminopyrimidine used in conjunction with sulphonamides for the prevention of malaria**
- 39. Is an antibiotic used in children for the treatment of meningitis**
- 40. Is a drug used for the treatment of tuberculosis**

The following information relates to questions 41 – 45:

- A. Tubocurarine
- B. Suxamethonium
- C. Methoctramine
- D. Hemicholinium
- E. Pilocarpine

- 41. Is a depolarising neuromuscular blocking drug**
- 42. Is a non depolarising neuromuscular blocking drug**
- 43. Has antagonist activity at muscarinic M2 cholinergic sites**
- 44. Is a tertiary amine compound with muscarinic receptor agonist activity**
- 45. Is hydrolysed by plasma butyryl cholinesterases**

The following information relates to questions 46 – 50:

- A. Digoxin
- B. Dobutamine
- C. Enalapril
- D. Amrinone
- E. Verapamil

- 46. Is contraindicated in congestive heart failure**
- 47. Increases contractility by stimulating cardiac β_1 adrenoceptors**
- 48. Decreases preload by decreasing fluid retention**
- 49. Increases contractility by inhibiting phosphodiesterase**
- 50. Decreases afterload by inhibiting angiotensin II production**

The following information relates to questions 51 – 55:

- A. Glibenclamide
- B. Verapamil
- C. Cromakalim
- D. Felodipine
- E. Tetrodotoxin

- 51. Opens K^+_{ATP} channels and causes vasodilation**
- 52. Is used in the treatment of supraventricular tachycardia**
- 53. Is a very selective vascular/cardiac calcium channel blocker**
- 54. Is a Na^+ channel blocking agent**
- 55. Is a member of the dihydropyridine group of calcium channel blockers**

The following information relates to questions 56 – 60:

- A. Neuropeptide Y (NPY)
- B. Nitric oxide
- C. Vasoactive intestinal peptide (VIP)
- D. Substance P
- E. ATP (Adenosine triphosphate)

- 56. Is a peptide co transmitter in some noradrenergic neurones**
- 57. Is released by capsaicin from some sensory nerve terminals**
- 58. Is not a peptide and mediates transmission at some sympathetic neuroeffector junctions**
- 59. Is formed enzymatically from arginine and mediates relaxation of smooth muscle at some neuroeffector junctions**
- 60. Is a peptide co-transmitter in some cholinergic neurones**

The following information relates to questions 61 – 65:

- A. α methyl tyrosine
- B. Octopamine
- C. Moclobemide
- D. Pargyline
- E. Methyldopa

- 61. Is a precursor for an additional transmitter**
- 62. Is a non selective monoamine oxidase inhibitor**
- 63. Inhibits the enzyme tyrosine hydroxylase**
- 64. Is a product of the “cheese” reaction with monoamine oxidase inhibition**
- 65. Is a selective monoamine oxidase isoenzyme inhibitor**

The following information relates to questions 66 – 70:

- A. Nystatin
- B. Griseofulvin
- C. Neomycin
- D. Rifampicin
- E. Mefloquine

- 66. Is given orally for the treatment of tuberculosis**
- 67. Is given orally for the treatment of fungal infections of the skin**
- 68. If formulated as a pessary for treatment of vaginal infections caused by *Candida albicans***
- 69. Is given orally for the treatment of malaria**
- 70. Is a component of eye drops used for the treatment of bacterial conjunctivitis**

The following information relates to questions 71 – 75:

- A. Diltiazem
- B. Prazosin
- C. Hydralazine
- D. Lisinopril
- E. Clonidine

- 71. Is a directly acting vasodilator drug particularly on arteries**
- 72. Is an antihypertensive drug that may raise local bradykinin levels**
- 73. Exerts a hypotensive action by inhibiting central sympathetic outflow**
- 74. Is a calcium entry blocking drug that is not vascular selective**
- 75. Is an adrenergic antagonist with a beneficial effect on plasma lipid levels**

The following information relates to questions 76 – 80:

- A. Atropine
- B. Carbachol
- C. Bethanechol
- D. Acetylcholine
- E. Choline

- 76. Relieves intestinal smooth muscle spasm**
- 77. Is a muscarinic but not nicotinic agonist**
- 78. Causes mydriasis and cycloplegia**
- 79. Would be contraindicated in closed angle glaucoma**
- 80. Is destroyed by butyryl cholinesterase**

The following information relates to questions 81 – 85:

- A. Verapamil
- B. Saxitoxin
- C. Conotoxin GVIA
- D. Pinacidil
- E. Glibenclamide

- 81. Opens L types calcium channels**
- 82. Opens ATP sensitive potassium channels**
- 83. Blocks ATP sensitive potassium channels**
- 84. Blocks neuronal sodium channels**
- 85. Blocks N type voltage operated channels**

The following information relates to questions 86 – 90:

- A. Ethosuxamide
- B. Carbamazepine
- C. Sodium valproate
- D. Phenytoin
- E. Clonazepam

- 86. Is exclusively used in treating absence type seizures**
- 87. Is a benzodiazepine used in status epilepticus**
- 88. May cause facial hair growth as one of its side effects**
- 89. Facilitates GABA mediated inhibition**
- 90. May produce gingival hyperplasia**

The following information relates to questions 91 – 95:

- A. Allopurinol
- B. Colchicine
- C. Probenecid
- D. Aspirin
- E. Prednisolone

- 91. Increases the synthesis of lipocortin-1**
- 92. Competitively inhibits the enzyme xanthine oxidase and thus retards uric acid formation**
- 93. Is used in the treatment of gout because, by inhibiting neutrophil migration, it reduces inflammation in joints**
- 94. Promotes urate retention and therefore interferes with uricosuric agents in the treatment of gout**
- 95. Is a non inflammatory uricosuric agent**

The following information relates to questions 96 – 100:

- A. Ranitidine
- B. Aluminium hydroxide
- C. Bisacodyl
- D. Ondansetron
- E. Simethicone

- 96. Is useful in the treatment of flatulence**
- 97. Is an irritant laxative**
- 98. Is an effective anti emetic drug in patients undergoing chemotherapy**
- 99. Is a H2 receptor antagonist used in the treatment of peptic ulcer**
- 100. May cause hypophosphatemia**

The following information relates to questions 101 – 105:

- A. Methotrexate
- B. Proguanil
- C. Sulphanilamide
- D. Trimethoprim
- E. Thymidine

101. Is structurally related to pABA

102. Inhibits de novo folic acid synthesis

103. Selectively inhibits the Plasmodial form of dihydrofolate reductase

104. Selectively inhibits bacterial dihydrofolate reductase

105. Gets into mammalian cells on the folate transporter

The following information relates to questions 106 – 110:

- A. Metoclopramide
- B. Haloperidol
- C. Thioridazine
- D. Clozapine
- E. Promethazine

106. Is a phenothiazine used to treat schizophrenia

107. Is a butyrophenone with neuroleptic activity

108. Is a dopamine receptor antagonist used as an antiemetic but not as a neuroleptic agent

109. Is a phenothiazine used to treat motion sickness

110. Is associated with a decreased likelihood of developing tardive dyskinesia when used to treat schizophrenia

The following information relates to questions 111 – 115:

- A. Clonidine
- B. Methoxamine
- C. Salbutamol
- D. Dobutamine
- E. Isoprenaline

111. Is a non selective β_1 and β_2 adrenoceptor agonist and is a substrate for catechol O methyl transferase

112. Is a functionally selective β_2 adrenoceptor agonist

113. Is an α adrenoceptor agonist which acts in the central nervous system to lower blood pressure in hypertension

114. Is an α adrenoceptor agonist used clinically in nasal decongestant

115. Is a relatively selective α_2 adrenoceptor agonist

The following information relates to questions 116 – 120:

- A. Captopril
- B. Glyceryl trinitrate
- C. Mevastatin
- D. Digoxin
- E. Warfarin

116. Is a non competitive allosteric inhibitor

117. Is a prodrug

118. Is structurally related to part of a peptide hormone

119. Is structurally related to a vitamin cofactor

120. Inhibits a rate limiting enzyme found in many cells

The following information relates to questions 121 – 125:

- A. Diazepam
- B. Baclofen
- C. Gallamine
- D. Dantrolene
- E. Suzamethonium

121. Inhibits polysynaptic reflexes by facilitating the actions of GABA on GABA_A receptors on primary afferent neurones in the spinal cord

122. Is an agonist at GABA_A receptors used to relieve skeletal muscle spasm

123. Relieves skeletal muscle spasm by impairing depolarisation induced calcium release from the sarcoplasmic reticulum

124. Is a competitive neuromuscular blocking agent that possess some anti muscarinic activity

125. Is a non competitive neuromuscular blocking agent which may in sensitive individuals cause malignant hyperthermia

The following information relates to questions 126 – 130:

- A. Acetylsalicylic acid
- B. Milrinone
- C. Zidovudine
- D. Nitric oxide
- E. Saquinavir

126. Is an enzyme activator

127. Is an isoenzyme selective enzyme inhibitor

128. Is a prodrug

129. Selectively inhibits a viral enzyme over its mammalian counterpart

130. Covalently modifies its target enzyme

The following information relates to questions 131 – 135:

- A. Dopamine β hydroxylase
- B. Dopa decarboxylase
- C. Tyrosine hydroxylase
- D. Phenylethanolamine N methyl transferase
- E. Aromatic amino acid transaminase

131. Catalyses the conversion of α methyl dopa to α methyl dopamine

132. Forms tyramine and tryptamine from the corresponding amino acids

133. Is normally the rate limiting enzyme in the neuronal biosynthesis of noradrenaline

134. Catalyses the conversion of noradrenaline to adrenaline

135. Is liberated from noradrenergic neurons by stimuli that elicit exocytotic release of the amine stores

The following information relates to questions 136 – 140:

- A. Nitric oxide
- B. Prostacyclin (PGI_2)
- C. Endothelin
- D. Glyceryl trinitrate
- E. Thromboxane A_2

136. Is a vasoconstrictor peptide

137. Is a vasodilator derived from L-arginine

138. Is an arachidonic acid metabolite predominantly synthesised in platelets

139. Is released by acetylcholine to cause vasodilation

140. Is a vasodilator used in the treatment of angina pectoris

The following information relates to questions 141 – 145:

- A. A quaternary ammonium drug
- B. A basic drug with a pK_a value of 7.5
- C. An acidic drug with a pK_a value of 3.0
- D. A non ionisable drug with an oil/water partition coefficient of 100
- E. A drug which is virtually insoluble

141. Is likely to be partially but irregularly absorbed from the gastrointestinal tract

142. Is likely to be sequestered in adipose tissue

143. Will be absorbed more rapidly per unit surface area through the gastric mucosa compared to the intestinal mucosa

144. Is likely to be well absorbed from the small intestine and poorly absorbed from the stomach

145. Carries a positive charge under all physiological conditions

The following information relates to questions 146 – 150:

- A. Serotonin
- B. Leukotriene C₄
- C. Thromboxane A₂
- D. Prostaglandin E₂
- E. Prostacyclin (PGI₂)

- 146. Is a product of arachidonic acid metabolism with bronchoconstrictor and vasoconstrictor activity but no effect on platelets**
- 147. Is formed and released by platelets and induces platelet aggregation**
- 148. Is stored but not synthesised by platelets and can cause platelet aggregation**
- 149. Is synthesised and released by vascular endothelium and inhibits platelet aggregation**
- 150. Is without effect on platelet aggregation but dilates blood vessels**

The following information relates to questions 151 – 155:

- A. Procaine
- B. Cocaine
- C. Nifedipine
- D. Pracainamide
- E. Lignocaine

- 151. Is a membrane stabilising drug used as a local anaesthetic and to treat cardiac arrhythmias**
- 152. Is a calcium channel antagonist**
- 153. Is a membrane stabilising drug with vasoconstrictor activity**
- 154. Is a local anaesthetic with a short plasma half life (~ 1 min)**
- 155. May interfere with the antibacterial action of sulphonamides**

The following information relates to questions 156 – 160:

- A. Pizotifen
- B. Methysergide
- C. Aspirin
- D. Sumatriptan
- E. Ergotamine

- 156. Is an agonist for α adrenoceptors**
- 157. Has anti serotonin and antihistamine properties and is sometimes used as a prophylactic antimigraine drug**
- 158. Is an inexpensive and relatively safe drug that should be tried first in a patient with acute migraine**
- 159. Is a serotonin receptor antagonist prescribed for the prophylactic use in chronic migraine sufferers**
- 160. Is an agonist for 5HT receptors**

The following information relates to questions 161 – 165:

- A. Benzhexol
- B. Carbidopa
- C. Bromocriptine
- D. Amantadine
- E. Trifluoperazine

- 161. Is a dopamine agonist which can produce beneficial effects in patients with Parkinsons disease**
- 162. May release dopamine from central dopaminergic neurones**
- 163. Can produce nausea as an undesirable side effect**
- 164. Is an atropine like drug to alleviate some symptoms of Parkinsons disease**
- 165. Is used to obtain more efficient treatment of patients being treated with levodopa in Parkinsons disease**

The following information relates to questions 166 – 170:

- A. Isoprenaline
- B. Salbutamol
- C. Tyramine
- D. Oxymetazoline
- E. Amphetamine

- 166. Is a directly acting α adrenoceptor agonist with no affinity for β adrenoceptors**
- 167. Is an indirectly acting sympathomimetic amine and a substrate for monoamine oxidase**
- 168. Is relatively selective for β_2 adrenoceptors**
- 169. Is an α adrenoceptor agonist mainly used as an ocular decongestant**
- 170. Is a β adrenoceptor agonist which is not selective for β_1 or β_2 adrenoceptor subtypes**

The following information relates to questions 171 – 175:

- A. Salbutamol
- B. Isoprenaline
- C. Sodium cromoglycate
- D. Beclomethasone dipropionate aerosol
- E. Ipratropium bromide aerosol

- 171. Has been associated with an increased incidence of oral fungal infections**
- 172. Is a β_2 selective agonist with a comparatively short duration of action**
- 173. When administered by aerosol is least likely of these drugs to affect the heart**
- 174. Is a sympathomimetic amine which is not a selective agonist of β_2 receptors and is metabolised by catechol O methyltransferase**
- 175. Tends to prevent reflex bronchoconstriction and has been found to be most useful in treating patients with chronic partially reversible airways obstruction and in crisis treatment of asthma**

The following information relates to questions 176 – 180:

- A. Chlorothiazide
- B. Ethacrynic acid
- C. Amiloride
- D. Mannitol
- E. Acetazolamide

176. Is an osmotic diuretic

177. Is a potassium sparing diuretic

178. Is usually administered by IV infusion

179. May cause metabolic acidosis which limits its effectiveness as a diuretic

180. Is useful in the chronic treatment of hypertension

END OF EXAM

1997 PRACTICE PHARMACOLOGY MCQ: PART B – ANSWERS

1 E	46 E	91 E	136 C
2 D	47 B	92 A	137 A
3 A	48 C	93 B	138 E
4 A	49 D	94 D	139 A
5 B	50 C	95 C	140 D
6 C	51 C	96 E	141 E
7 E	52 B	97 C	142 D
8 A	53 D	98 D	143 C
9 D	54 E	99 A	144 B
10 A	55 D	100 B	145 A
11 D	56 A	101 C	146 B
12 A	57 D	102 C	147 C
13 B	58 E	103 B	148 A
14 E	59 B	104 D	149 E
15 C	60 C	105 A	150 D
16 B	61 E	106 C	151 E
17 E	62 D	107 B	152 C
18 C	63 A	108 A	153 B
19 D	64 B	109 E	154 A
20 E	65 C	110 D	155 A
21 B	66 D	111 E	156 E
22 D	67 B	112 C	157 A
23 C	68 A	113 D	158 C
24 C	69 E	114 B	159 B
25 E	70 C	115 A	160 D
26 B	71 C	116 D	161 C
27 D	72 D	117 B	162 D
28 E	73 E	118 A	163 C
29 C	74 A	119 E	164 A
30 A	75 B	120 C	165 B
31 B	76 A	121 A	166 D
32 C	77 C	122 A	167 C
33 D	78 A	123 D	168 B
34 E	79 A	124 C	169 D
35 A	80 D	125 E	170 A
36 D	81 A	126 D	171 D
37 A	82 D	127 B	172 A
38 E	83 E	128 C	173 C
39 B	84 B	129 E	174 B
40 C	85 C	130 A	175 E
41 B	86 A	131 B	176 D
42 A	87 E	132 B	177 C
43 C	88 D	133 C	178 D
44 E	89 E	134 D	179 E
45 B	90 D	135 A	180 A