

PHARMACOLOGY

- In the autonomic regulation of blood pressure**
 - Cardiac output is maintained constant at the expense of other hemodynamic variables
 - Elevation of blood pressure results in elevated aldosterone secretion
 - Baroreceptor nerve fibers decrease firing rate when arterial pressure increases
 - Stroke volume and mean arterial blood pressure are the primary direct determinants of cardiac output
 - A condition that reduces the sensitivity of the sensory baroreceptor nerve endings might cause an increase in sympathetic discharge
- The autonomic nervous system is also known as**
 - Visceral
 - Vegetative
 - Involuntary nervous system
 - All of the above
- Full activation of the sympathetic nervous system, as in maximal exercise, can produce all of the following responses except**
 - Bronchial relaxation
 - Decreases intestinal motility
 - Increased renal blood flow
 - Mydriasis
 - Increased heart rate (tachycardia)
- Several children at a summer camp were hospitalized with symptoms thought to be due to ingestion of food containing botulinum toxins. The effects of botulinum toxin are likely to include**
 - Bronchospasm
 - Cycloplegia
 - Diarrhea
 - Skeletal muscle spasms
 - Hyperventilation
- The neurotransmitter agent that is normally released in the sinoatrial node of the heart in response to a blood pressure increase is**
 - Acetylcholine
 - Dopamine
 - Epinephrine
 - Glutamate
 - Norepinephrine
- A direct acting cholinomimetic that is lipidsoluble and often used in the treatment of glaucoma is**
 - Acetylcholine
 - Bethanechol
 - Physostigmine
 - Pilocarpine
 - Neostigmine
- Which of the following agents is a prodrug that is much less toxic in mammals than in insects?**
 - Acetylcholine
 - Bethanechol
 - Physostigmine
 - Pilocarpine
 - Neostigmine
- Atropine overdose may cause which one of the following**
 - Gastrointestinal smooth muscle cramp
 - Increased cardiac rate
 - Increased gastric secretion
 - Pupillary constriction
 - Urinary frequency
- The synaptic preganglionic neurons have their cell bodies in the lateral horn of the grey matter of the**
 - Thoracic segment only
 - Lumbar segment only
 - Both (a) and (b)
 - None of the above
- Which one of the following can be blocked by atropine?**
 - Decreased blood pressure caused by hexamethonium
 - Increased blood pressure caused by nicotine
 - Increased skeletal muscle strength caused by neostigmine
 - Tachycardia caused by exercise
 - Tachycardia caused by infusion of acetylcholine
- Which of the following best describes the mechanism of action of scopolamine?**
 - Irreversible antagonist at nicotinic receptors
 - Irreversible antagonist at muscarinic receptors
 - Physiologic antagonist at muscarinic receptors
 - Reversible antagonist at muscarinic receptors
 - Reversible antagonist at nicotinic receptors
- Accepted therapeutic indications for the use of antimuscarinic drugs include all of the following except**
 - Hypertension
 - Motion sickness
 - Parkinson's disease
 - Postoperative bladder spasm
 - Traveler's diarrhea
- In male sex organs _____ system is responsible for erection.**
 - Sympathetic
 - Parasympathetic
 - Norepinephrine
 - None of the above
- A 7 years old boy has a significant bedwetting problem. A long acting indirect sympathomimetic agent sometimes used by the oral route for this and other indications is**
 - Dobutamine
 - Ephedrine
 - Epinephrine
 - Isoproterenol
 - Phenylephrine
- When pupillary dilation but not cycloplegia is desired, a good choice is**
 - Homatropine
 - Isoproterenol
 - Phenylephrine

- d. Pilocarpine
- e. Tropicamide

16. **'Fight or flight' state can be described as**

- a. Sympathetic active; parasympathetic quiescent
- b. Sympathetic active; parasympathetic active
- c. Sympathetic quiescent; parasympathetic active

17. **Your patient is to receive a selective β_2 stimulant drug β_2 selective stimulant are often effective in**

- a. Angina due to coronary insufficiency
- b. Asthma
- c. Chronic heart failure
- d. Delayed or insufficiently strong labor
- e. All of the above

18. **Which of the following drugs is the drug of choice in anaphylaxis associated with bronchospasm and hypotension ?**

- a. Cortisone
- b. Epinephrine
- c. Isoproterenol
- d. Norepinephrine
- e. Phenylephrine

19. **Which of the following effects of epinephrine would be blocked by phentolamine but not by metoprolol ?**

- a. Cardiac stimulation
- b. Contraction of radial smooth muscle in the iris
- c. Increase of cAMP in fat
- d. Relaxation of bronchial smooth muscle
- e. Relaxation of the uterus

20. **Propranolol is useful in all of the following except**

- a. Angina
- b. Familial tremor
- c. Hypertension
- d. Idiopathic hypertrophic subaortic cardiomyopathy
- e. Partial atrioventricular heart block

21. **'Rest and digest' state can be described as**

- a. Sympathetic active; parasympathetic quiescent
- b. Sympathetic active; parasympathetic active
- c. Sympathetic quiescent; parasympathetic active

22. **A friend has very severe hypertension and asks about a drug her doctor wishes to prescribe. Her physician has explained that this drug is associated with tachycardia and fluid retention (which may be marked) and increased hair growth. Which of the following is most likely to produce the effects that your friend has described?**

- a. Captopril
- b. Guanethidine
- c. Minoxidil
- d. Prazosin
- e. Propranolol

23. **Which one of the following is characteristic of captopril and enalapril ?**

- a. Competitively blocks angiotensin II at its receptor
- b. Decreases angiotensin II concentration in the blood
- c. Decreases rennin concentration in the blood
- d. Increases sodium and decreases potassium in the blood
- e. Decreases sodium and increases potassium in the urine

24. **Postural hypotension is a common adverse effect of which one of the following types of drugs ?**

- a. ACE inhibitors
- b. Alpha-receptor blockers
- c. Arteriolar dilators
- d. β_1 – selective receptor blockers
- e. Nonselective β blockers

25. **A visitor from another city comes to your office complaining of incessant cough. He has diabetes and hypertension and has recently started taking a different antihypertensive medication. The most likely cause of his cough is**

- a. Enalapril
- b. Losartan
- c. Minoxidil
- d. Propranolol
- e. Verapamil

26. **Reserpine, an alkaloid derived from the root of Rauwolfiaserpentina**

- a. Can be used to control hyperglycemia
- b. Can cause severe depression of mood
- c. Can decrease gastrointestinal secretion and motility
- d. Has no cardiac effects
- e. A spare receptor agonist

27. **Nitroglycerin, either directly or through reflexes, results in which one of the following effects**

- a. Decreased heart rate
- b. Decreased venous capacitance
- c. Increased afterload
- d. Increased cardiac force
- e. Increased diastolic intramyocardial fiber tension

28. **The antianginal effect of propranolol may be attributed to which one of the following**

- a. Block of exercise – induced tachycardia
- b. Decreased end – diastolic ventricular volume
- c. Dilation of constricted coronary vessels
- d. Increased cardiac force
- e. Increased resting heart rate

29. **The major common determinant of myocardial oxygen consumption is**

- a. Blood volume
- b. Cardiac output
- c. Diastolic blood pressure
- d. Heart rate
- e. Myocardial fiber tension

30. **Choose the incorrect statement from the following**

- a. Sympathetic system increases rate of SA node
- b. Sympathetic system causes constriction of coronary arteries
- c. Sympathetic system causes increased motility of GIT smooth muscles
- d. Sympathetic system causes constriction of sphincter in GIT

31. **Denervation supersensitivity includes**

- a. Proliferation of receptors
- b. Loss of mechanism for transmitter removal
- c. Increased postjunctional responsiveness
- d. All of the above

32. Which of the following is approved for the treatment of hemorrhagic stroke ?
- Amyl nitrite
 - Hydralazine
 - Isosorbidedemonitrate
 - Nifedipine
 - Nimodipine
33. Which of the following drugs used for the treatment of angina by inhalation has a very rapid onset and a brief duration of effect ?
- Amyl nitrite
 - Hydralazine
 - Isosorbidedemononitrate
 - Nifedipine
 - Nimodipine
34. Which of the following is a vasodilator drug used for hypertension that lacks a direct effect on autonomic receptors but may provoke anginal attacks?
- Amyl nitrite
 - Hydralazine
 - Isosorbidedemononitrate
 - Nifedipine
 - Nimodipine
35. The biochemical mechanism of action of digitalis is associated with
- A decrease in calcium uptake by the sarcoplasmic reticulum
 - An increase in ATP synthesis
 - A modification of the actin molecule
 - An increase in systolic intracellular calcium levels
 - A block of sodium/calcium exchange
36. A patient has been taking digoxin for several years for chronic heart failure is about to receive atropine for another condition. A common effect of digoxin (at therapeutic blood levels) that can be almost entirely blocked by atropine is
- Decreased appetite
 - Increased atrial contractility
 - Increased PR interval on the ECG
 - Headaches
 - Tachycardia
37. In a patient given a cardiac glycoside, important effects of the drug on the heart include which of the following?
- Decreased atrioventricular conduction velocity
 - Decreased ejection time
 - Increased ectopic automaticity
 - Increased ectopic automaticity
 - All of the above
38. Which of the following situations constitutes an added risk of digoxin toxicity ?
- Starting administration of captopril
 - Starting administration of quinidine
 - Hyperkalemia
 - Hypermagnesemia
 - Hypocalcemia
39. At rest, the interior of the typical mammalian neuronal axon potential is approximately _____ mV
- 0
 - 70
 - 100
 - 20
40. Following enzyme is involved in the synthesis of acetylcholine
- Choline acetyl transferase
 - Acetyl cholinesterase
 - Both (a) and (b)
 - None of the above
41. Which of the following has been shown to prolong life in patient with chronic congestive failure but has a negative inotropic effect on cardiac contractility?
- Carvedilol
 - Digitoxin
 - Digoxin
 - Dobutamine
 - Enalapril
42. Which of the following is the drug of choice in treating suicidal overdose of digitoxin ?
- Digoxin antibodies
 - Lidocaine
 - Magnesium
 - Potassium
 - Quinidine
43. When used as an antiarrhythmic drug, Lidocaine typically
- Increases action potential duration
 - Increases contractility
 - Increases PR interval
 - Reduces abnormal automaticity
 - Reduces resting potential
44. A 16 year old girl is found to have paroxysmal attacks of rapid heart rate. The antiarrhythmic of choice in most cases of acute AV nodal tachycardia is
- Adenosine
 - Amiodarone
 - Flecainide
 - Propranolol
 - Quinidine
45. Recognized adverse effects of quinidine include which one of the following?
- Cinchonism
 - Constipation
 - Lupus erythematosus
 - Increase in digoxin clearance
 - Precipitation of hyperthyroidism
46. Following is an antagonist of ganglion type nicotinic receptors
- Tubercurarine
 - abungarotoxin
 - Trimethaphan
 - All of the above
47. Which of the following is an orally active drug that blocks sodium channels and decreases action potential duration?
- Adenosine
 - Amiodarone
 - Disopyramide
 - Esmolol
 - Mexiletine

- 1298 48. Which of the following has the longest half-life of all antiarrhythmic drugs?
- Adenosine
 - Amiodarone
 - Disopyramide
 - Esmolol
 - Flecainide
49. Which of the following diuretics would be most useful in a patient with cerebral edema?
- Acetazolamide
 - Amiloride
 - Ethacrynic acid
 - Furosemide
 - Mannitol
50. Which of the following therapies would be most useful in the management of severe hypercalcemia?
- Amiloride plus saline infusion
 - Furosemide plus saline infusion
 - Hydrochlorothiazide plus saline infusion
 - Mannitol plus saline infusion
 - Spirolactone plus saline infusion
51. A 55-year-old patient with severe posthepatitis cirrhosis is started on a diuretic for another condition. Two days later he is found in a coma. The drug most likely to cause coma in a patient with cirrhosis is
- Acetazolamide
 - Amiloride
 - Furosemide
 - Hydrochlorothiazide
 - Spirolactone
52. Oxytremorine is a selective agonist of muscarinic _____ receptors
- M1
 - M2
 - M3
 - M4
53. A drug that is useful in glaucoma and high altitude sickness is
- Acetazolamide
 - Amiloride
 - Demeclocycline
 - Desmopressin
 - Ethacrynic acid
54. Cromolyn has as its major action
- Block of calcium channels in lymphocytes
 - Block of mediator release from mast cells
 - Block of phosphodiesterase in mast cells and basophils
 - Smooth muscle relaxation in the bronchi
 - Stimulation of cortisol release by the adrenals
55. Following events occur in the cytoplasm and not inside storage vesicles, except
- Conversion of tyrosine to dopa
 - Conversion of dopa to dopamine
 - Conversion of dopamine to norepinephrine
 - Conversion of dopamine to 3,4 dihydroxy phenyl acetic acid
56. Which one of the following is least likely to be useful in the therapy of hypercalcemia?
- Calcitonin
 - Glucocorticoids
 - Plicamycin
 - Parenteral infusion of phosphate
 - Thiazide diuretics
57. Characteristics of Vitamin D and its metabolites include which one of the following?
- Act to decrease serum levels of calcium
 - Activation of their Vitamin D receptors increases cellular CAMP
 - Calcitriol is the major derivative responsible for increasing intestinal absorption of phosphate
 - Metabolites of Vitamin D increase renal excretion of calcium
 - Vitamin D deficiency results in Pagen's disease
58. Which of the following conditions is an indication for the use of calcitonin?
- Chronic renal failure
 - Hypoparathyroidism
 - Intestinal osteodystrophy
 - Pagen's disease
 - Rickets
59. Clinical uses of Vitamin D do not include
- Chronic renal failure
 - Hyperparathyroidism
 - Intestinal osteodystrophy
 - Nutritional rickets
 - Osteoporosis
60. Which one of the following drugs, when used chronically, is associated with the development of bone pain and mineralization defects such as osteomalacia?
- Calcitonin
 - Dihydroxycholesterol
 - Ergocalciferol
 - Etidronate
 - Norgestrel
61. A 70-year-old man has severe urinary hesitancy associated with benign prostatic hyperplasia. He has tried alpha blockers with little relief. His physician recommends a drug that blocks 5 α reductase in the prostate and writes a prescription for
- Atropine
 - Clonidine
 - Hydralazine
 - Neostigmine
 - Propranolol
62. Action of norepinephrine and epinephrine are terminated by
- Reuptake into nerve terminal
 - Dilution by diffusion and uptake at extraneuronal site
 - Metabolic transformation
 - All of the above
63. Typical results of β receptor activation include which one of the following?
- Hypoglycemia
 - Lipolysis
 - Glycogen synthesis

- d. Decreased skeletal muscle tremor
e. Decreased rennin secretion
64. A patient is admitted to the emergency room with orthostatic hypotension and evidence of marked GI bleeding. Which of the following most accurately describes the probable autonomic response to this bleeding?
a. Slow heart rate, dilated pupils, damp skin
b. Rapid heart rate, dilated pupils, damp skin
c. Slow heart rate, dry skin, increased bowel sounds
d. Rapid heart rate, constricted pupils, increased bowel sounds
e. Rapid heart rate, constricted pupils, warm skin
65. Drugs that block the α_1 receptor on effector cells at adrenergic nerve endings
a. Antagonize the effects of isoproterenol on the heart rate
b. Antagonize some of the effects of epinephrine on the blood pressure
c. Antagonize the effects of epinephrine on adenylyl cyclase
d. Cause mydriasis
e. Decreases blood glucose levels
66. Yohimbine is an antagonist of _____ receptors.
a. α_1
b. α_2
c. both (a) and (b)
d. None of the above
67. Which of the following organs is innervated only by parasympathetic nerves?
a. Iris muscles
b. Ciliary muscle
c. Sweat glands
d. Splenic capsule
68. Muscarinic cholinergic receptors
a. Are located only on parasympathetically innervated effector cells
b. Mediate responses by opening an intrinsic Na^+ ion channel
c. Are present on vascular endothelium which has no cholinergic nerve supply
d. Predominate in the autonomic ganglia
69. The cardiac muscarinic receptors
a. Are of the M_1 subtype
b. Are of the M_2 subtype
c. Are selectively blocked by pirenzepine
d. Function through the $\text{PIP}_2 \rightarrow \text{IP}_3/\text{DAG}$ pathway
70. Atropine does not exert relaxant/ antispasmodic effect on the following muscle
a. Intestinal
b. Ureteric
c. Bronchial
d. Laryngeal
71. α_1 – receptors are coupled with _____ G protein.
a. G_s
b. G_i
c. G_q
d. G_o
72. Hyoscine differs from atropine in that it
a. Exerts depressant effects on the CNS at relatively low doses
b. Exerts more potent effects on the heart than on the eye
c. Is longer acting
d. Has weaker antinotion sickness activity
73. Which of the following anticholinergic drugs is primarily used in preanaesthetic medication and during surgery
a. Glycopyrrolate
b. Pipenzolate methyl bromide
c. Isopropamide
d. Dicyclomine
74. Glycopyrrolate is the preferred antimuscarinic drug for use before and during surgery because
a. It is potent and fast acting
b. It has no central action
c. It has antisecretory and vagolytic actions
d. All of the above
75. Which of the following mydriatics has the fastest and briefest action?
a. Atropine
b. Homatropine
c. Tropicamide
d. Cyclopentolate
76. The most suitable mydriatic for a patient of corneal ulcer is
a. Atropine sulfate
b. Homatropine
c. Cyclopentolate
d. Tropicamide
77. The most effective antidote for belladonna poisoning is
a. Neostigmine
b. Physostigmine
c. Pilocarpine
d. Methacholine
78. Atropine is contraindicated in
a. Cyclic AMP
b. Inositol trisphosphate
c. Diacylglycerols
d. G protein
79. Select the correct statement from the following about α_1 – adrenergic receptor agonists
a. Isoproterenol > epinephrine = norepinephrine
b. Epinephrine > isoproterenol > norepinephrine
c. Isoproterenol = epinephrine = norepinephrine
d. Epinephrine = norepinephrine > isoproterenol
80. The most efficacious inhibitor of catecholamine synthesis in the body is
a. a methyl- p tyrosine
b. a methyl dopa
c. a methyl norepinephrine
d. Pyrogallol
81. Tyramine induces release of noradrenaline from adrenergic nerve endings
a. By depolarizing the axonal membrane
b. By mobilizing Ca^{2+}
c. By a nonexocytotic process
d. Only in the presence of MAO inhibitors

- 1300 82. Choose the correct statement from the following about α_1 – adrenergic receptor agonists**
- Norepinephrine > isoproterenol > epinephrine
 - Norepinephrine < epinephrine > isoproterenol
 - Epinephrine = norepinephrine >> isoproterenol
 - Epinephrine > isoproterenol > norepinephrine
- 83. A sympathomimetic amine that acts almost exclusively by releasing noradrenaline from the nerve endings is**
- Ephedrine
 - Dopamine
 - Isoprenaline
 - Tyramine
- 84. Low doses of adrenaline dilate the following vascular bed**
- Cutaneous
 - Mucosal
 - Renal
 - Skeletal muscle
- 85. α_2 -adrenergic receptors are associated with following except**
- Increase in phospholipase C activity
 - Increase in potassium channel conductance
 - Decrease in calcium channel conductance
 - Increase in adenylyl cyclase activity
- 86. Adrenaline raises blood glucose level by the following actions except**
- Inducing hepatic glycogenolysis
 - Inhibiting insulin secretion from pancreatic β cells
 - Augmenting glucagons secretion from pancreatic α cells
 - Inhibiting peripheral glucose utilization
- 87. Noradrenaline is administered by**
- Subcutaneous injection
 - Intramuscular injection
 - Slow intravenous infusion
 - All of the above routes
- 88. Dobutamine differs from dopamine in that**
- It does not activate peripheral dopaminergic receptors
 - It does not activate adrenergic β receptors
 - It causes pronounced tachycardia
 - It has good bloodbrain barrier penetrability
- 89. Ephedrine is similar to adrenaline in the following feature**
- Potency
 - Inability to penetrate bloodbrainbarrier
 - Duration of action
 - Producing both α and β adrenergic effects
- 90. Continuous exposure of catecholaminesensitive cells and tissues to adrenergic agonists causes a progressive diminution in their capacity to respond, thisphenomenon is called as**
- Refractoriness
 - Desensitization
 - Tachyphylaxis
 - All of the above
- 91. While undergoing a surgical procedure a patient develops hypotension. Which of the following drugs can be injected intramuscularly to raise his BP**
- Noradrenaline
 - Isoprenaline
 - Mephentermine
 - Isoxsuprine
- 92. Vasoconstrictors should not be used in**
- Neurogenic shock
 - Haemorrhagic shock
 - Secondary shock
 - Hypotension due to spinal anaesthesia
- 93. Guanethidine inhibits**
- Synthesis of transmitter
 - Metabolism of transmitter
 - Release of transmitter
 - Displacement of transmitter from axonal terminal
- 94. The drug which produces vasoconstriction despite being an α adrenergic blocker is**
- Phenoxybenzamine
 - Ergotamine
 - Dihydroergotoxine
 - Tolazoline
- 95. Prazosin is an effective antihypertensive while nonselective α adrenergic blockers are not because**
- It is the only orally active α blocker
 - It improves plasma lipid profile
 - It does not concurrently enhance noradrenaline release
 - It improves urine flow in males with prostatic hypertrophy
- 96. Which of the following is true of sildenafil**
- It enhances sexual enjoyment in normal men
 - It delays ejaculation
 - It is indicated only for treatment of erectile dysfunction in men
 - It blocks cavernosal α_2 adrenoceptors
- 97. The β adrenergic blocker which possesses both β_1 selectivity as well as intrinsic sympathomimetic activity is**
- Alprenolol
 - Atenolol
 - Acebutolol
 - Metoprolol
- 98. Propranolol can be used to allay anxiety associated with**
- Chronic neurotic disorder
 - Schizophrenia
 - Shortterm stressful situation
 - Endogenous depression
- 99. Propranolol does not block the following action of adrenaline**
- Bronchodilation
 - Lipolysis
 - Muscle tremor
 - Mydriasis
- 100. Phenylephrine**
- Mimics the transmitter at postsynapticreceptors
 - Displaces transmitter from axonal terminal
 - Inhibits synthesis of transmitter
 - None of the above

101. **Aminoethylimidazole is?**
- 2methyl histamine
 - Histamine
 - 2pyridyl ethylamine
 - 4methyl histamine
102. **Agents that often cause vasoconstriction include all of the following except**
- Angiotensin II
 - Methysergide
 - PGF_{2a}
 - Prostacyclin
 - Thromboxane
103. **Inflammation is a complex tissue reaction that includes the release of cytokines, leukotrienes, prostaglandins, and peptides. Prostaglandins involved in inflammatory processes are produced from arachidonic acid by**
- Cyclooxygenase 1
 - Cyclooxygenase 2
 - Glutathione – S – transferase
 - Lipoxygenase
 - Phospholipase A₂
104. **A 60yearold woman has glaucoma following cataract surgery. Which of the following can be used to reduce intraocular pressure?**
- Leukotriene LTD₄ or its analogs
 - Prostaglandin E₂ or its analogs
 - Prostaglandin F_{2a} or its analogs
 - Slowreacting substance of anapylaxis (SRSA)
 - Thromboxane A₂ or its analogs
105. **Which of the following is a reversible inhibitor of platelet cyclooxygenase?**
- Alprostadil
 - Aspirin
 - Ibuprofen
 - LTC₄
 - Misoprostol
106. **Vasodilation by prostaglandins involves**
- Arterioles
 - Precapillary sphincters
 - Postcapillary venules
 - All of the above
107. **Fentanyl transdermal patches have been used postoperatively to provide transdermal analgesia. The most dangerous adverse effect of this mode of administration is**
- Cutaneous reactions
 - Diarrhea
 - Hypertension
 - Relaxation of skeletal muscle
 - Respiratory depression
108. **Opioid analgesics are either contraindicated or must be used with extreme caution in several clinical situations. For morphine, such situations do not include**
- Aqueous diffusion
 - Aqueous hydrolysis
 - Lipid diffusion
 - Pinocytosis or endocytosis
 - Special carrier transport
109. **Following is an example of paraaminophenol NSAID**
- Diclofenac
 - Acetaminophen
 - Piroxicam
 - Celecoxib
110. **This drug, which does not activate opioid receptors, has been proposed as a maintenance drug in treatment programs for opioid addicts; a singly oral dose will block the effects of injected heroin for up to 48 hours**
- Amphetamine
 - Buprenorphine
 - Naloxone
 - Naltrexone
 - Propoxyphene
111. **Which one of the following statements about dextromethorphan is accurate?**
- Activates kappa receptors
 - Analgesia equivalent to pentazocine
 - Highly effective antiemetic
 - Less constipation than codeine
 - Use requires a prescription
112. **Which one of the following effects does not occur in salicylate intoxication ?**
- Hyperventilation
 - Hypothermia
 - Metabolic acidosis
 - Respiratory alkalosis
 - Tinnitus
113. **Which one of the following drugs is not useful in dysmenorrhea?**
- Aspirin
 - Colchicine
 - Ibuprofen
 - Rofecoxib
 - Naproxen
114. **Following gold compound is generally administered orally**
- Aurothioglucose
 - Auronafin
 - Gold sodium thiomalate
 - All of the above
115. **The main advantage of ketorolac over aspirin is that ketorolac**
- Can be combined more safely with an opioid such as codeine
 - Can be obtained as an overthecounter agent
 - Does not prolong the bleeding time
 - Is available in a parenteral formulation that can be injected intramuscularly or intravenously
 - Is less likely to cause acute renal failure in patients with some preexisting degree of renal impairment
116. **A 45yearold surgeon has developed symmetric early morning stiffness in her hands. She wishes to take a nonsteroidal anti-inflammatory drug to relieve these symptoms and wants to avoid gastrointestinal side effects. Which one of the following drugs is most appropriate?**
- Aspirin
 - Celecoxib
 - Ibuprofen

- d. Indomethacin
- e. Piroxicam

117. Following is an example of preformed and not lipid derived mast cell mediator of inflammatory process

- a. LTC₄
- b. PGD₂
- c. PAF
- d. Histamine

118. The toxicity spectrum of aspirin does not include

- a. Increased risk of encephalopathy in children with viral infections
- b. Increased risk of peptic ulcers
- c. Hyperprothrombinemia
- d. Metabolic acidosis
- e. Respiratory alkalosis

119. Accidental poisonings are common with both aspirin and ibuprofen, two OC drugs available in tasty chewable tablets. In cases of overdose, aspirin is more likely than ibuprofen to cause

- a. Autonomic Instability
- b. Hepatic necrosis
- c. Metabolic acidosis
- d. Thrombocytopenia
- e. Ventricular arrhythmias

120. A drug that decreases blood pressure and has analgesic and spasmolytic effects when given intrathecally is

- a. Atenolol
- b. Clonidine
- c. Morphine
- d. Nitroprusside
- e. Prazosin

121. Cyclooxygenase 1 and -2 are responsible for

- a. The synthesis of prostaglandins from arachidonate
- b. The synthesis of leukotrienes from arachidonate
- c. The conversion of ATP to cAMP
- d. The metabolic degradation of cAMP
- e. The conversion of GTP to cGMP

122. Following agent is generally used in allergic rhinitis

- a. Beclomethasone
- b. Fluticasone
- c. Triamcinolone
- d. All of the above

123. The primary objective for designing drugs that selectively inhibit COX - 2 is to

- a. Decrease the risk of nephrotoxicity
- b. Improve anti-inflammatory effectiveness
- c. Lower the risk of gastrointestinal toxicity
- d. Reduce the cost of treatment of rheumatoid arthritis
- e. Selectively decrease thromboxane A₂ without effects on other eicosanoids

124. A newborn was diagnosed as having a congenital abnormality that resulted in transposition of her great arteries. While preparing the infant for surgery, the medical team needed to keep the ductus arteriosus open. They did this by infusing

- a. Cortisol
- b. Indomethacin
- c. Ketorolac

- d. Misoprostol
- e. Tacrolimus

125. Acetyl salicylic acid is soluble in

- a. An aqueous base
- b. Water
- c. An aqueous acid

126. Decomposition of the acetyl salicylic acid at room temperature most likely would occur by

- a. Oxidation of the ester
- b. Reduction of the carboxylic acid
- c. Hydrolysis of the ester

127. Diamprit is an agonist of _____ receptors, except

- a. H₁
- b. H₂
- c. H₃
- d. All of the above

128. Which of the following enzymes is ultimately responsible for the production of prostaglandins associated with inflammatory reactions?

- a. Phospholipase
- b. Lipooxygenase
- c. Cyclooxygenase I
- d. Cyclooxygenase II
- e. Xanthine oxidase

129. Which of the following prostaglandin analogs is used specifically for the treatment of NSAID induced gastrointestinal ulceration?

- a. Alprostadil
- b. Misoprostol
- c. Carboprost
- d. Dinoprostone
- e. Epoprostenol

130. Which of the following compounds is most likely to lower circulating levels of leukotrienes?

- a. Zileuton
- b. Montelukast
- c. Carprofen
- d. Aspirin
- e. Allopurinol

131. The action of aspirin that results in its greater efficacy as an antithrombotic (antiplatelet) drug is its ability to

- a. Inhibit lipooxygenase as well as cyclooxygenase
- b. Selectively inhibit cyclooxygenase I
- c. Inhibit leukocyte migration
- d. Promote uric acid excretion
- e. Acetylate cyclooxygenase

132. Which of the following drugs may be effective in the treatment of gouty arthritis by acting by two separate and distinct mechanisms?

- a. Allopurinol
- b. Probenecid
- c. Colchicine
- d. Indomethacin
- e. Sulfinpyrazone

133. Acute or chronic colchicine toxicity may be identified by which of the following signs/symptoms?
- Alopecia
 - Blood dyscrasias
 - Severe gastrointestinal upset
 - All of the above
 - None of the above
134. Patients taking chronic doses of nonselective nonsteroidal anti-inflammatory drugs (NSAIDs) should periodically be screened for which of the following toxicities?
- Nephrotoxicity
 - Peripheral neuropathy
 - Cardiotoxicity
 - All of the above
 - None of the above
135. Which of the following medications would represent arthritis therapy that is least likely to cause gastric ulceration?
- Aspirin
 - Acetaminophen
 - Piroxicam
 - Meclofenamate
 - Rofecoxib
136. In addition to their ability to decrease inflammatory prostaglandin synthesis, some nonsteroidal Anti-inflammatory drugs (NSAIDs) may owe part of their effects to their ability to
- Inhibit leukocyte migration
 - Inhibit leukotriene synthesis
 - Stabilize lysosomal membranes
 - All of the above
 - None of the above
137. The termination of heparin activity by protamine sulfate is due to
- A chelating action
 - The inhibition of gastrointestinal absorption of heparin
 - The displacement of heparin/plasma protein binding
 - An acidbase interaction
 - The prothrombinlike activity of protamine
138. In gastrointestinal tract, serotonin causes
- Contraction of gastrointestinal muscles
 - Decreased muscle tone
 - Decreased peristalsis
 - All of the above
139. A FDA – approved ingredient for protection against painful sensitivity of the teeth due to cold, heat, acids, sweets or contact is
- Dicalcium phosphate
 - Sodium lauryl sulfate
 - 5% potassium nitrate
 - Zinc chloride
 - Calcium carbonate
140. Which local anesthetic should be used to treat symptoms of pain, itching, burning, and discomfort in patients with an established lidocaine allergy?
- Tetracaine
 - Dibucaine
 - Pramoxine
 - Benzocaine
141. What is the most common sign/symptom of hemorrhoids?
- Bleeding
 - Pain
 - Seepage
 - Pruritus
142. Which of the following agents is designated as a safe and effective analgesic, anesthetic and antipruritic by the Food and Drug Administration?
- Witch hazel
 - Juniper tar
 - Hydrocortisone
 - Phenylephrine
143. A 65-year-old is interested in taking ginkgo. Which of the following statements is correct regarding ginkgo?
- Ginkgo is contraindicated in diabetes and pregnancy
 - There is a drug-herb interaction between ginkgo and aspirin
 - Toxic effects include hypertension and cardiac arrest
 - There is a drug-herb interaction between ginkgo and phenelzine
 - Ginkgo is contraindicated in patients with gallstone pain
144. All of the following medications should not be used routinely in pregnant patients during the third trimester except
- Acetaminophen
 - Nonsteroidal anti-inflammatory drugs
 - Warfarin
 - Lithium
 - Aspirin
145. Which of the following statements best describes the usual course of rheumatoid arthritis?
- It is an acute exacerbation of joint pain treated with short-term anti-inflammatory therapy
 - It is a chronic disease characterized by acute changes within nonsynovial joints
 - It is an acute disease that is characterized by rapid synovial changes due to inflammation
 - It is a chronic disease characterized by acute exacerbations followed by remissions with consequences associated with chronic inflammatory changes
 - It is a joint disease characterized by a marked loss of calcium from the bones and a resultant thinning of the bones
146. All of the following statements concerning an acute gouty arthritis attack are correct except
- The diagnosis of gout is assured by a good therapeutic response to colchicines because no other form of arthritis responds to this drug
 - To be assured of the diagnosis, monosodium urate crystals must be identified in the synovial fluid of the affected joint
 - Attacks frequently occur in the middle of the night
 - An untreated attack may last up to 2 weeks
 - The first attack usually involves only one joint, most frequently the big toe (first metatarsophalangeal joint)
147. TNF is an example of eicosanoids
- Interleukins
 - Cytotoxic factors
 - Interferons
 - Colony stimulating factors

- 1304 148. Potential adverse effects associated with aspirin include all of the following except**
- Gastrointestinal ulceration
 - Renal dysfunction
 - Enhanced methotrexate toxicity
 - Cardiac arrhythmias
 - Hypersensitivity asthma
- 149. All of the following facts are true about nonsteroidal anti-inflammatory drugs (NSAIDs) except**
- They are antipyretic
 - There is a ceiling effect to their analgesia
 - They can cause tolerance
 - They do not cause dependence
 - They are antiinflammatory
- 150. Which of the following narcotics has the longest duration of effect?**
- Methadone
 - Controlled release morphine
 - Levorphanol
 - Transdermal fentanyl
 - Dihydromorphone
- 151. Cyclooxygenase II specific inhibitors block the following**
- Production of cytoprotective prostaglandins
 - Tumor necrosis factor α
 - Production of prostaglandins responsible for pain and inflammation
- 152. The emetic action of morphine is due to**
- Irritation of gastrointestinal tract
 - Stimulation of cerebral cortex
 - Stimulation of medullary vomiting center
 - Stimulation of emetic chemoreceptor trigger zone
 - None of the above
- 153. Colchicine is used mainly to treat**
- Gout
 - Arthritis
 - Diabetes
 - Carcinomas
 - High blood pressure
- 154. Which type of patient is most likely to hypersensitive to aspirin?**
- Intrinsic asthmatic
 - Extrinsic asthmatic
 - Chronic bronchitic
 - Patient with viral infection
 - Both (c) and (d)
- 155. Codeine acts as a cough sedative by**
- Producing mild nausea
 - Depressing bronchiolar secretions
 - Depressing pulmonary action
 - Depressing cough center
 - Paralyzing sensory nerves of bronchi
- 156. The greatest threat from morphine poisoning is**
- Renal shutdown
 - Paralysis of spinal cord
 - Respiratory depression
 - Cardiovascular collapse
 - None of the above
- 157. A very common side effect of morphine is**
- Allergic response
 - Blood dyscrasias
 - Constipation
 - Liver damage
 - Visceral pain
- 158. Eicosanoids are a group of _____ carbon unsaturated fatty acids**
- 20
 - 10
 - 25
 - 35
- 159. Which of the following drugs is a monamine oxidase inhibitor, but is used to treat hypertension?**
- Tranlylcypromine (Parnate)
 - Reserpine
 - Propranolol (Inderal)
 - Pargyline (Eutonyl)
 - Imipramine (Tofranil)
- 160. Autacoids differ from hormones in that**
- Autacoids are involved only in the causation of pathological states
 - Autacoids do not have a specific cell/ tissue of origin
 - Autacoids generally act locally at the site of generation and release
 - Both (b) and (c)
- 161. Which of the following eicosanoids is generated through the lipoxygenase pathway?**
- Prostaglandin E₂
 - Thromboxane A₂
 - Prostacyclin
 - Leukotriene C₄
- 162. The cyclooxygenase isoenzymes COX1 and COX2 differ from each other in that**
- They catalyse different pathways in prostanoid biosynthesis
 - COX-1 is inhibited by aspirin but not COX-2
 - COX-2 is inhibited by ibuprofen but not COX-1
 - COX-1 is constitutive while COX-2 is inducible
- 163. Which of the following is an irreversible inhibitor of cyclooxygenase?**
- Aspirin
 - Phenylbutazone
 - Indomethacin
 - Piroxicam
- 164. The prostanoid that consistently constricts blood vessels is**
- Prostaglandin E₂
 - Prostaglandin F_{2a}
 - Thromboxane A₂
 - Prostacyclin
- 165. The following prostanoid is a potent inducer of platelet aggregation**
- Prostacyclin
 - Prostaglandin E₂

- c. Prostaglandin D2
d. Thromboxane A2
- 166. Aspirin in low doses produces longlasting inhibition**
a. Platelets contain low quantity of COX
b. Platelets cannot synthesize fresh COX molecules
c. Platelets bind aspirin with high affinity
d. Platelet COX is inducible
- 167. The early pregnancy uterus is sensitive to the following oxytocic**
a. Oxytocin
b. Methylergometrine
c. Prostaglandin F2a
d. Both (a) and (b)
- 168. Cervical priming with prostaglandin results in**
a. Facilitation of sperm movement through cervical canal
b. Increased cervical tone
c. Softening of cervix
d. Increased cervical secretions
- 169. Corticosteroids exert anti-inflammatory action by inhibiting the following enzyme**
a. Cyclooxygenase
b. Lipoxygenase
c. Phospholipase A
d. Phosphodiesterase
- 170. Main effect of sulphinpyrazone in hyperuricaemia is**
a. Suppress the symptoms
b. Promote the elimination of urate
c. prevent urate synthesis
d. All of the above
- 171. Which of the following glucocorticoids has significant mineralocorticoid activity also ?**
a. Hydrocortisone
b. Triamcinolone
c. Dexamethasone
d. Betamethasone
- 172. Corticosteroid therapy is practically mandatory in the following condition.**
a. Septic shock
b. Renal transplant
c. Rheumatoid arthritis
d. Ulcerative colitis
- 173. For limiting cerebral edema due to brain tumour, the preferred corticosteroids are betamethasone/dexamethasone because**
a. They do not cause Na⁺ and water retention
b. They are more potent
c. They can be administered intravenously
d. They inhibit brain tumours
- 174. Systemic corticosteroid therapy is not used routinely and is reserved only for severe cases of**
a. Exfoliative dermatitis
b. Posterior uveitis
c. Acute rheumatic fever
d. Hodgkin's disease
- 175. The following adverse effect of corticosteroids is due to their 1305 mineralocorticoid action**
a. Osteoporosis
b. Rise in blood pressure
c. Moon face
d. Increased susceptibility to infection
- 176. Which of the following bones is affected more by glucocorticoid induced osteoporosis?**
a. Femur
b. Humerus
c. Radius
d. Lumbar vertebra
- 177. Morphine produces analgesia by acting at**
a. Peripheral pain receptors
b. A spinal site
c. Suspraspinal sites
d. Both (b) and (c)
- 178. In man sedation caused by morphine is characterized by**
a. Initial excitement
b. Little or no motor incoordination
c. Rise in seizure threshold
d. All of the above
- 179. Instead of depressing, morphine stimulates**
a. Vasomotor centre
b. Edinger westphal nucleus
c. Temperature regulating centre
d. Cough centre
- 180. In a comatose patient suspected of poisoning, which of the following findings would be against the drug being morphine**
a. Selegiline
b. Chlorgiline
c. Moclobemide
d. Tranlycypromine
- 181. Instead of being effective in hyperuricaemia following drug is contradicted in the treatment of gout**
a. Indomethacin
b. Diclofenac
c. Piroxicam
d. Aspirin
- 182. Morphine dependence is characterized by**
a. Marked drug seeking behavior
b. Physical dependence without psychic dependence
c. Physical as well as psychic dependence
d. Both (a) and (c)
- 183. Morphine is contraindicated in head injury because**
a. It does not relieve the pain of head injury
b. It can raise intracranial tension
c. It can cause constipation
d. It is liable to cause addiction
- 184. Which of the following opioids is more potent than morphine?**
a. Pethidine
b. Fentanyl
c. Dextropropoxyphene
d. Tramadol

- 1306 185. Which of the following opioid analgesics is similar to codeine in pharmacological profile but is less constipating ?**
- Methadone
 - Buprenorphine
 - Butorphanol
 - Dextropropoxyphene
- 186. Select the analgesic which acts through opioids as well as additional spinal monoaminergic mechanisms.**
- Tramadol
 - Ethoheptazine
 - Dextropropoxyphene
 - Alfentanil
- 187. An opioid analgesic is preferred over aspirin like analgesic in the following condition.**
- Acute gout
 - Burn
 - Toothache
 - Neuralgia
- 188. Morphine has high affinity for the following opioid receptor(s).**
- μ (Mu)
 - κ (Kappa)
 - δ (Delta)
 - All of the above
- 189. Which of the following is an agonist-antagonist type of opioid analgesic**
- Pethidine
 - Pentazocine
 - Fentanyl
 - Buprenorphine
- 190. Pentazocine differs from morphine in that**
- It is inactive by the oral route
 - It does not produce physical dependence
 - It has a lower ceiling of analgesic effect
 - Its action is not blocked by naloxone
- 191. Which action of morphine is incompletely reversed by naloxone ?**
- Analgesia
 - Respiratory depression
 - Sedation
 - Miosis
- 192. Lower dose of naloxone is required to**
- Antagonise the actions of nalorphine
 - Antagonise the actions of pentazocine
 - Precipitate withdrawal in mildly morphine dependent subjects
 - Precipitate withdrawal in highly morphine dependent subjects
- 193. Following mediators are involved in acute inflammation except**
- Histamine
 - Leukotrienes
 - Interferons
 - Bradykinin
- 194. The distinctive feature of the isoenzyme cyclooxygenase2 is**
- It is not inhibited by indomethacin
 - It is inducible
 - It generates cytoprotective prostaglandins in gastric mucosa
 - It is found only in foetal tissues
- 195. Aspirin produces analgesia by**
- Preventing sensitization of peripheral pain receptors
 - Affecting gating of pain impulses at spinal level
 - Raising pain threshold at subcortical level
 - Both (a) and (b)
- 196. Aspirin reduces fever by**
- Decreasing heat production in the body
 - Enhancing cutaneous blood flow
 - Inducing sweating
 - Both (b) and (c)
- 197. In the treatment of chronic inflammatory diseases, the most important limitation of aspirin is**
- Acid – base and electrolyte disturbances
 - Hypersensitivity and idiosyncratic reactions
 - Gastric mucosal damage
 - Salicylism
- 198. Generally the earliest manifestation of salicylism is**
- Visual disturbance
 - Excitement
 - Hyperventilation
 - Tinnitus
- 199. Allergy is immediate hypersensitivity mediated by _____ and mast cell degranulation**
- IgG
 - IgE
 - IgM
 - IgA
 - IgD
- 200. Immediate Allergy is what type of hypersensitivity reaction**
- Type I Hypersensitivity
 - Type II Hypersensitivity
 - Type III Hypersensitivity
 - Type IV Hypersensitivity
 - Type V Hypersensitivity
- 201. Hypersensitivity refers to undesirable reactions produced by**
- circulatory system
 - Respiratory system
 - Immune System
 - Endocrine system
 - Autonomic nervous system
- 202. A mast cell (or mastocyte) is a resident cells of several types of tissues and contains many granules rich in_____.**
- Acetylcholine
 - Nicotine
 - Epinephrine
 - Histamine
 - Histadine

203. The organ which involve most frequent hypersensitivity reaction is
- Liver
 - Kidney
 - Skin
 - Lungs
 - Stomach
204. Penicillin Allergy is usually caused by its chemical degradation to
- Penicillamine
 - Penilloic acid
 - Penicillenic acid
 - Penaldic acid
 - Penicilloic acid
205. Influenza vaccines can be contraindicated to patients who are allergic to the preservatives of the vaccine, e.g. _____
- Neomycin
 - Streptomycin
 - Gentamycin
 - Doxycycline
 - Clavulanic acid
206. Reduction in fever within ___ h withdrawal of drug strongly suggests that suspected drug causing allergy.
- 38 h
 - 24h
 - 48h
 - 16 h
 - 20 h
207. If fever is accompanied by _____, drug toxicity is more likely than allergy and is much more serious.
- Granulocytopenia
 - Thrombocytopenia
 - Histamine
 - Leukopenia
 - Hypotension
208. A mother comes to the pharmacy with her 3yearold son who has a cough. Which of the following list of symptoms is most likely to indicate an allergy?
- fever
 - chesty cough
 - rhinorrhoea
 - headache
 - malaise
209. The primary reason for a physician to prescribe human insulin is that:
- It has a faster onset of action than other insulins
 - It has a shorter duration of action than other insulins
 - It can be given to patients who have an allergy to animal insulins
 - It is more effective in preventing the complications of diabetes than animal insulins
 - It is more sterile than other insulines.
210. Immediate allergy reaction (type I allergic reaction) is:
- An allergic or immune response that begins within a period lasting from a few minutes to about an hour after exposure to an antigen to which the individual has been sensitized
 - An allergic reaction that becomes apparent only hours after contact
 - An allergic reaction that results from the formation of antigenantibody complexes between a foreign antigen and IgM or IgG immunoglobulins.
 - An allergic reaction that is due to the presence of elevated levels of antigenantibody complexes that cause tissue damage
 - It occurs during blood transfusion reactions and in hemolytic disease of the newborn.
211. Immunodeficiency:
- A localized protective reaction of tissue to irritation, injury, or infection, characterized by pain, redness, swelling, and sometimes a loss of function
 - A disorder or deficiency of the normal immune response
 - A disease resulting from an immune reaction produced by an individual's white blood cells or antibodies acting on the body's own tissues or extracellular proteins
 - A disease caused by immune system when the drug passes 1st pass effect and damage the liver.
 - It is an immunity disorder which is genetically transferred.
212. Delayed allergy reaction (type IV allergic reaction) is:
- An An allergic or immune response that begins within a period lasting from a few minutes to about an hour after exposure to an antigen to which the individual has been sensitized
 - An allergic reaction that becomes apparent only hours after contact
 - An allergic reaction that results from the formation of antigenantibody complexes between a foreign antigen and IgM
 - allergic reaction that is due to the presence of elevated levels of antigenantibody complexes that cause tissue damage
 - An allergic disorder which is transferred genetically.
213. Which one of the following is a false statement about atopic eczema?
- It commonly begins by drug reaction.
 - Superadded herpes simplex infection is a serious complication.
 - The serum IgE level is normally raised.
 - The skin lesions are typically itchy.
 - Treatment with systemic steroids is often necessary.
214. Which one of the following statements is false ? Allergic asthma is characterized by:
- Response to cyclosporin therapy in severe disease.
 - Is characterised by reversible airways obstruction.
 - T2 cells are found in bronchoalveolar lavage fluid.
 - Affects 5% of the population.
 - Is diagnosed routinely by use of ELISA

Pharmacology - Answers

- | | | | | |
|-------|-------|--------|--------|--------|
| 1. d | 38. b | 76. a | 112. b | 149. c |
| 2. c | 39. b | 77. b | 113. b | 150. d |
| 3. c | 40. a | 78. d | 114. b | 151. c |
| 4. b | 41. a | 79. a | 115. d | 152. d |
| 5. a | 42. a | 80. a | 116. b | 153. a |
| 6. d | 43. d | 81. c | 117. d | 154. a |
| 7. c | 44. a | 82. c | 118. c | 155. d |
| 8. b | 45. a | 83. d | 119. c | 156. c |
| 9. c | 46. c | 84. d | 120. b | 157. c |
| 10. e | 47. e | 85. d | 121. a | 158. a |
| 11. d | 48. b | 86. d | 122. d | 159. d |
| 12. a | 49. e | 87. c | 123. c | 160. d |
| 13. b | 50. b | 88. a | 124. d | 161. d |
| 14. b | 51. a | 89. d | 125. a | 162. d |
| 15. c | 52. a | 89. d | 126. c | 163. a |
| 16. a | 53. a | 90. d | 127. a | 164. c |
| 17. b | 54. b | 91. c | 128. d | 165. d |
| 18. b | 55. c | 92. c | 129. b | 166. b |
| 19. b | 57. c | 93. c | 130. a | 167. c |
| 20. e | 58. d | 94. b | 131. e | 168. c |
| 21. c | 59. b | 95. c | 132. d | 169. c |
| 22. c | 60. d | 96. c | 133. d | 170. b |
| 23. b | 61. b | 97. c | 134. a | 171. a |
| 24. b | 62. d | 98. c | 135. e | 172. b |
| 25. a | 63. b | 99. d | 136. d | 173. a |
| 26. b | 64. b | 100. a | 137. d | 174. c |
| 27. d | 65. b | 101. b | 138. a | 175. b |
| 28. a | 66. b | 102. d | 139. c | 176. d |
| 29. e | 67. b | 103. b | 140. c | 177. b |
| 30. c | 68. c | 104. c | 141. a | 178. b |
| 31. d | 69. b | 105. c | 142. b | 179. b |
| 32. e | 70. d | 106. d | 143. b | 180. a |
| 33. a | 71. c | 107. e | 144. a | 181. d |
| 34. b | 72. a | 108. e | 145. d | 182. d |
| 35. d | 73. a | 109. b | 146. a | 183. b |
| 36. c | 74. d | 110. d | 147. b | 184. b |
| 37. e | 75. c | 111. d | 148. e | 185. d |

- | | | | | |
|--------|--------|--------|--------|--------|
| 186. a | 192. d | 198. d | 204. e | 210. a |
| 187. b | 193. c | 199. b | 205. a | 211. b |
| 188. a | 194. b | 200. a | 206. c | 212. b |
| 189. b | 195. d | 201. c | 207. a | 213. e |
| 190. c | 196. d | 202. d | 208. c | 214. e |
| 191. c | 197. c | 203. c | 209. c | |