

Subject: Veterinary Pharmacology and Toxicology

- Which of the following is NOT a characteristic of the biological membrane?
 - It has many proteins embedded
 - It is 80 angstroms thick
 - It has a hydrophilic core
 - Small molecules pass through by filtration
- Which of the following is NOT true of Phase II biotransformation?
 - It usually results in inactive metabolites
 - Glucuronidation is the most common conjugate
 - It adds a new functional group to the drug
 - All Phase II reactions are microsomal
- Which of the following methods is used to calculate AUC?
 - Extrapolation
 - Trapezoidal rule
 - Reciprocal
 - Simplex
- Which of the following reactions is NOT an example of oxidation reaction?
 - Hydroxylation
 - Dealkylation
 - Dehalogenation
 - Methylation
- Almost complete elimination of a drug takes place after
 - 1-2 half lives
 - 15 -20 half lives
 - 4-5 half lives
 - 8 -10 half lives
- Heat shock protein is associated with
 - Steroid receptor
 - Nicotinic receptor
 - Insulin receptor
 - G protein coupled receptor
- In the case of a competitive antagonist, the ratio of pA_{2}/pA_{10} is
 - 0.5
 - 0.65
 - 0.95
 - 1.65

8. Which of the following is not a characteristic of a receptor?
- Automaticity
 - Reversibility
 - Specificity
 - Saturability
9. Statement 1: Amide type local anesthetics are stable and longer acting than ester type
Statement 2: Adrenaline is usually added with local anaesthetics to reduce distribution and thus prolong the action
- Only statement 2 is correct
 - Only statement 1 is correct
 - Both statements are correct
 - Both statements are false
10. A drug which binds to the receptor but produces a response less than the maximal response is known as
- Partial agonist
 - Inverse agonist
 - Full agonist
 - Antagonist
11. Regarding two compartment pharmacokinetics, which of the following is NOT CORRECT?
- It has distribution and elimination rate constants
 - Elimination occurs from the peripheral compartment
 - Most drugs follow this model
 - Can occur in non intravenous administration too
12. The hydroxyl groups in catecholamines are located in
- 2nd and 4th position
 - 2nd and 3rd position
 - 1st and 3rd position
 - 3rd and 4th position
13. Statement 1: Dopamine has both direct and indirect adrenergic actions
Statement 2: Like dopamine dobutamine also causes release of norepinephrine
- Only Statement 2 is correct
 - Only Statement 1 is correct
 - Both statements are correct
 - Both statements are false

14. A long acting compound used for myasthenia gravis which has two molecules of neostigmine linked together
- Demecarium
 - Amibenonium
 - Pyridostigmine
 - Rivastigmine
15. A calcium binding protein that acts as a calcium buffer with sarcoplasmic reticulum is
- Calcineurin
 - Calmodulin
 - Calsequestrin
 - Calbindin
16. The cells that serve as storehouse of histamine
- Basophil
 - Plasma cell
 - Enterochromaffin cell
 - Mast cell
17. The vasodilatory response of acetylcholine is mediated by
- Nitric oxide
 - Nitrous oxide
 - Renin
 - Dopamine
18. Assertion: Renin is secreted during high blood pressure
Reason: Renin levels are inversely related to renal perfusion pressure
- Assertion is correct but reason is wrong
 - Both assertion and reason are correct
 - Reason is correct but assertion is wrong
 - Both assertion and reason are wrong
19. The autacoid modulated by ondansetron is
- Substance-P
 - 5HT
 - Histamine
 - Bradykinin
20. Name the autacoids that cause vasoconstriction
- 5HT and PGI₂
 - Histamine and Thromboxane
 - Thromboxane and Angiotensin
 - Bradykinin and Angiotensin

21. Example of selective serotonin reuptake inhibitor
- Imipramine
 - Bromocriptine
 - Fluoxetine
 - Tranlycypromine
22. Anaesthetic that produces concentration effect
- Halothane
 - Nitrous oxide
 - Isoflurane
 - Ether
23. Antidote for xylazine overdose
- Atipemazole
 - Amphetamine
 - Picrotoxin
 - Bemegride
24. The neurotransmitter at the sympathetic ganglion
- Dopamine
 - Adrenaline
 - Noradrenaline
 - Acetylcholine
25. The opioid that has the most potent analgesic action
- Morphine
 - Etorphine
 - Fentanyl
 - Tramadol
26. The enzyme inhibited by captopril
- $\text{Na}^+ \text{K}^+$ ATPase
 - Kininase II
 - Adenylate cyclase
 - Phosphokinase A
27. Which of the following is NOT true for heparin?
- It is indicated for deep vein thrombosis
 - It is obtained from pig intestine
 - It is proteinaceous in nature
 - The antidote is protamine

28. Which of the following statements is **INCORRECT** about captopril?
- It is the first ACE inhibitor and the prototype drug
 - Among ACE inhibitors it has the shortest duration of action
 - It requires conversion into an active metabolite for its action
 - Captopril can cause dysgeusia and cough in humans
29. Identify the Class III antiarrhythmics
- Lidocaine, Phenytoin, Amiodarone
 - Amiodarone, Sotalol, Bretylium
 - Quinidine, Atenolol, Sotalol
 - Bretylium, Flecainide, Procainamide
30. Drug that activates PPAR- alpha and produces antidiabetic activity
- Acarbose
 - Dulaglutide
 - Rosglitazone
 - Metformin
31. Which of the following is FALSE with respect to alteplase?
- It is indicated for patients who tend to bleed
 - It cleaves plasminogen to form plasmin
 - It is a recombinant product
 - Reteplase is shorter acting than alteplase
32. Which of the following is a selective β_2 blocker?
- Albuterol
 - Butoxamine
 - Atenolol
 - Propranolol
33. The site of action of amiloride is
- Proximal tubule
 - Distal tubule
 - Collecting duct
 - Glomerulus
34. Frusemide produces its diuretic effect by
- Inhibition of carbonic anhydrase
 - Inhibition of Na^+Cl^- symport
 - Inhibition of $\text{Na}^+\text{K}^+2\text{Cl}^-$ symport
 - Inhibition of Na^+ channel

35. Tamoxifen is a
- Agonist at estrogen receptor
 - Antagonist at estrogen receptor
 - Agonist - antagonist at estrogen receptor
 - Agonist at progesterone receptor
36. Leukotrienes C4, D4 and E4 cause all of the following effects except:
- Bronchoconstriction
 - Vasoconstriction
 - Chemotaxis
 - Exudation of plasma
37. The muscarinic receptor involved in cardiac tissue
- M1
 - M2
 - M3
 - M4
38. A 5-HT based drug for the treatment of migraine
- Sumatriptan
 - Cyproheptadine
 - Ondansetron
 - Risperidone
39. Antacid known to cause constipation
- Sodium chloride
 - Magnesium sulphate
 - Aluminium hydroxide
 - Sodium bicarbonate
40. Which of these is not a clinical use of cardiac glycosides?
- Antiarrhythmic
 - Removal of edema
 - Lowering of hypertension
 - Correction of Heart failure
41. The technique for studying effects of drugs on heart is
- Langendorff preparation
 - Rat portal vein mounting
 - Rat aorta preparation
 - Four channel physiograph

42. Which of the following is NOT TRUE about prostaglandins?
- They are synthesized by the action of lipoxygenases
 - They are inducible
 - They are formed from a common precursor, arachidonic acid
 - Their inhibition can cause ulceration in the stomach
43. The vasomotor reversal of adrenaline was reported by
- OswaldSchmeideberg
 - Otto Loewi
 - Paul Ehrlich
 - Henry Dale
44. A technique to study single cell voltage recording
- Cell culture
 - X ray diffraction
 - Patch clamp technique
 - NMR spectroscopy
45. A biotransformation process that produces less water-soluble metabolites
- Ribonucleoside conjugation
 - Glucuronidation
 - Methylation
 - Acetylation
46. The teratogenic effect induced by the drug thalidomide
- Anencephalus
 - Hydrocephalus
 - Cleft palate
 - Phocomelia
47. The enzyme activity seen in bracken fern is
- Diaphorase
 - Thiaminase
 - Phosphodiesterase
 - Rhodanase
48. Acceptable daily intake is calculated from
- LD50
 - Risk factor
 - NOAEL
 - MRL

49. MTT assay is done to study
- Developmental toxicity
 - Mutagenicity
 - Dermal irritancy
 - Cytotoxicity
50. The study of Acute Oral Toxicity –Toxic class method is described in
- OECD 423
 - OECD 428
 - OECD 414
 - OECD 425
51. An antioocidal drug that inhibits thiamine
- Monensin
 - Sulphaquinoxaline
 - Diclazuril
 - Amprolium
52. Paclitaxel acts as an anticancer drug by
- Inhibition of topoisomerase
 - Inhibition of mitosis
 - Alkylation of macromolecules
 - Modulation of hormonal receptor
53. The active metabolite of pefloxacin is
- Ciprofloxacin
 - Enrofloxacin
 - Gatifloxacin
 - Norfloxacin
54. COMET assay is done to assess
- DNA damage
 - Skin irritation
 - Eye irritation
 - LD 50
55. The instrument that is used to quantify metals
- HPLC
 - NMR spectrophotometer
 - AAS
 - GC-MS

56. The antidote for arsenic toxicity
- D penicillamine
 - Dimercaprol
 - N acetyl cysteine
 - Desferroxamine
57. St. Anthony's fire in human beings is associated with
- LPS
 - T2 toxin
 - F2 toxin
 - Ergot
58. Enzootic ataxia is the name given to poisoning with
- Lead
 - Molybdenum
 - Copper
 - Oxalate
59. The organs chiefly affected in aminoglycoside poisoning are
- Bone and teeth
 - Ear and kidney
 - Kidney and liver
 - Muscle and skin
60. Which of the following about salt poisoning is NOT correct?
- It is also called water deprivation syndrome
 - It affects mainly swine and poultry
 - Continuous water administration is advised
 - It forms cerebral edema
61. Name the toxicant which does NOT primarily target kidney
- Mercury
 - Ochratoxin
 - Copper
 - Oxalate
62. The rodenticide that causes pulmonary edema
- Paraquat
 - Alphanaphthylthiourea(ANTU)
 - Zinc phosphide
 - Red squill

63. Which of the following about carbamate pesticide is FALSE?
- Atropine is the antidote for the poisoning
 - 2 PAM is contraindicated in therapy
 - It can cause secondary poisoning in wild animals
 - Carbamates bind to esteratic site of choline esterase
64. Which antibiotic is obtained from *Streptomyces aureofaciens*?
- Chloramphenicol
 - Erythromycin
 - Vancomycin
 - Chlortetracycline
65. Which of the following is a suicide inactivator?
- Piperine
 - Cilastatin
 - Sulbactam
 - Probenecid
66. The drug of choice for swine flu
- Azidothymidine
 - Oseltamivir
 - Acyclovir
 - Amantadine
67. Which of the following drugs is indicated for leptospirosis?
- Tilmicosin
 - Gatifloxacin
 - Gentamicin
 - Doxycycline
68. Identify the wrong pair
- Methotrexate – inhibition of nucleic acid synthesis
 - Carmustine - alkylating agent
 - Vincristine – mitotic inhibition
 - Doxorubicin – causation of DNA strand break
69. Which of the following is TRUE of enrofloxacin?
- It is active only against Gram negative bacteria
 - It is obtained from *Streptomyces* sp.
 - It is effective against anaerobes
 - It is banned for use in poultry by FDA

70. Which of the following is NOT true of amikacin?
- It is not easily degraded
 - It is effective against *Pseudomonas aeruginosa*
 - It is devoid of side effects caused by other aminoglycosides
 - It is bactericidal
71. Which of the following is a probenzimidazole
- Thiophanate
 - Thiabendazole
 - Cambendazole
 - Mebendazole
72. Which of the following is NOT TRUE about ketoconazole?
- It is given for both systemic and topical infections
 - It affects fungal mitotic spindle
 - It is lipophilic
 - It is used by topical route
73. Which of the following is TRUE of benzimidazole anthelmintics?
- They produce spastic paralysis
 - Their sulfoxide metabolite is active
 - All the members possess activity against immature flukes
 - Parasites are not known to develop resistance to them
74. Which one of the following is a salicylanilide?
- Closantel
 - Levamisole
 - Morantel
 - Ivermectin
75. Example of a monobactam
- Cefixime
 - Tazobactam
 - Carbenicillin
 - Aztreonam
76. The term chromatography refers to
- A technique of extraction
 - A method of assay
 - A method of new compound synthesis
 - A technique of separation

77. Which of the following is NOT true of plasma protein binding?
- It increases the duration of action of drugs
 - Drugs can compete for binding site
 - Acidic drugs bind to acid glycoprotein
 - Drug binding is transient and saturable
78. Identify the wrong pair
- Schedule C - Biological products
 - Schedule H – Drugs to be sold only under prescription
 - Schedule T – Sale of Siddha and ayurveda products
 - Schedule Y – Standards for vaccines
79. The autacoid that is modulated by maropitant, an antiemetic agent
- Substance P
 - 5 HT
 - Histamine
 - Angiotensin
80. Neuroleptanalgesia is a term associated with
- Preanaesthetic medication
 - Combination of opioid with tranquilizer
 - Combination of ketamine and xylazine
 - Postoperative pain management
81. A positive inotrope used in veterinary practice that increases sensitization to calcium
- Dobutamine
 - Pimobendan
 - Isoprenaline
 - Clonidine
82. The interaction of NSAIDs with warfarin takes place at the site of
- Protein binding
 - Absorption
 - Biotransformation
 - Excretion
83. A test used to detect pyrogenicity
- Ames test
 - Draize test
 - Micronucleus
 - LAL test

84. In PK /PD integration for antimicrobials, which of the following parameter is applicable for time dependent drugs?
- AUC/MIC
 - $T > MIC$
 - $T_{1/2} > MIC$
 - C_{max}/MIC
85. Which drug is combined with imipenam to increase its bioavailability?
- Cilastatin
 - Tazobactam
 - Probenecid
 - Cloxacillin
86. 'Like cures like' is the fundamental principle in
- Unani
 - Homoeopathy
 - Ayurveda
 - Gso-rig-pa*
87. The drug with the highest glucocorticoid potency
- Prednisone
 - Methylprednisolone
 - Cortisone
 - Betamethasone
88. The non-compartmental model of pharmacokinetics is based on
- Trapezoidal rule
 - Method of residuals
 - Statistical moments theory
 - Michelis-Menten rule
89. The OECD approved *in-vitro* method for assessing cytotoxicity
- Ames test
 - Micronucleus
 - COMET assay
 - Neutral red uptake assay
90. Name the ion channel involved in hERG assay
- K_{ATP} channel
 - IK_r channel
 - Calcium L type
 - Calcium T type

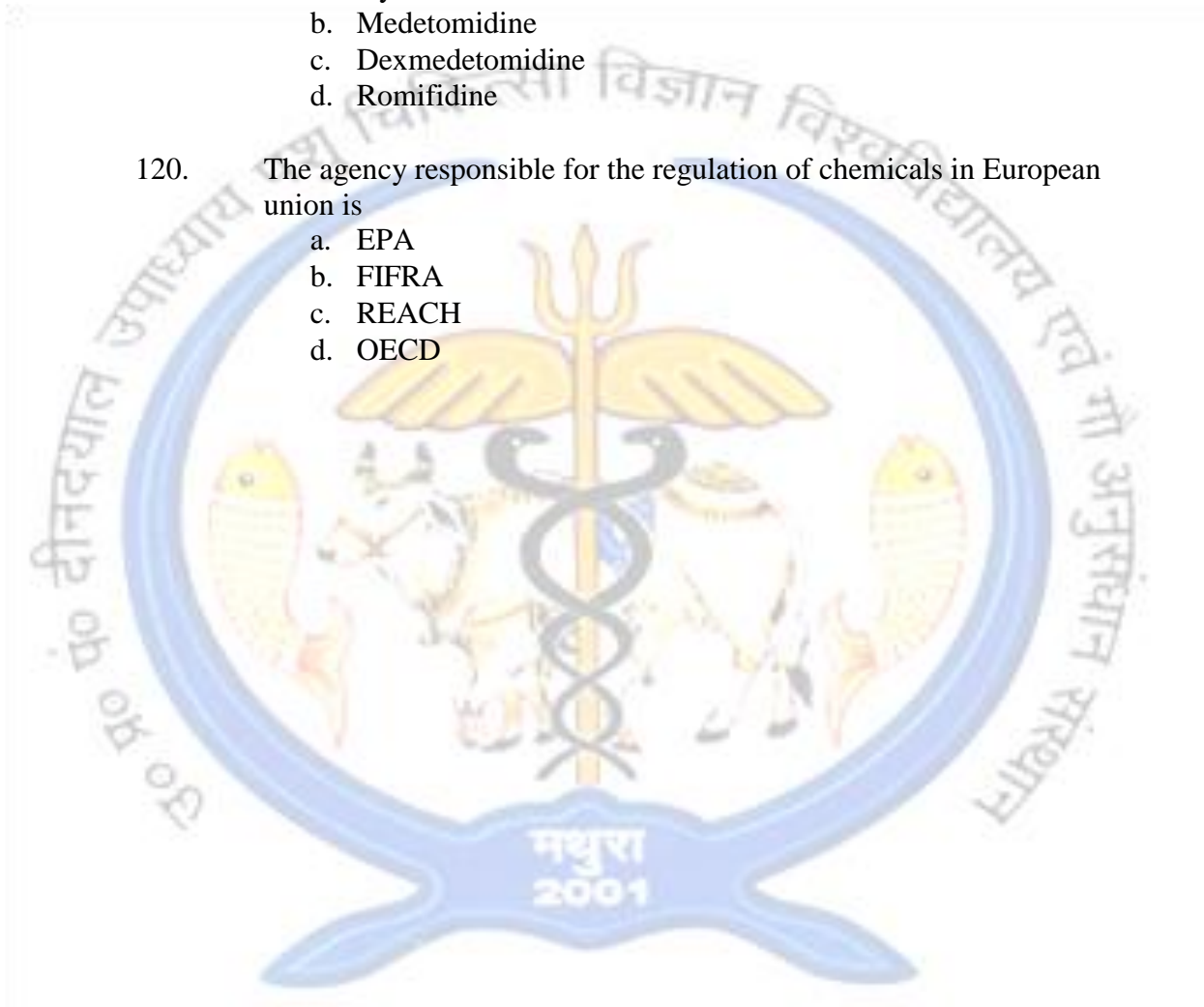
91. An extraction method that involves carbon di oxide at specific pressure and temperature
- Solid phase extraction
 - Gas chromatography
 - Supercritical fluid extraction
 - Mass spectrometer
92. The natural herbal component associated with anti-inflammatory property
- Tannins
 - Glycoside
 - Flavonoids
 - Coumarins
93. Which of the following about SLC transporters is FALSE?
- SLC transporters are membrane bound
 - They are mainly efflux proteins
 - They do not have ATP binding cassette
 - Glucose transporters belong to SLC type
94. The calcium channel involved in myocardial contraction
- N type
 - P type
 - T type
 - L type
95. The antihypertensive drug whose active metabolite EXP 3174 is not formed in canines
- Metoprolol
 - Nifedipine
 - Enalapril
 - Losartan
96. Delayed neurotoxicity in organophosphate poisoning is due to the inhibition of
- Neurotoxic esterase
 - Pseudo choline esterase
 - Sodium Potassium ATPase
 - Acetyl choline esterase
97. Phospholipase C- β is the effector pathway for
- G_{q/11} receptor
 - G_i receptor
 - G_s receptor
 - G_{12/13} receptor

98. Which of the following reaction is NOT involved in paracetamol biotransformation?
- Sulfation
 - Glucuronidation
 - Methylation
 - Glutathione conjugation
99. The drug that was banned in veterinary practice due to death of vultures
- Ketoprofen
 - Clenbuterol
 - Diethylstilbesterol
 - Diclofenac
100. Cabergoline acts as an agonist at
- D1 receptor
 - D2 receptor
 - M1 receptor
 - 5HT receptor
101. Which of the following is NOT a characteristic of dose-response curve
- The Log DR curve is hyperbola in shape
 - The competitive antagonist shifts the curve to right
 - ED₅₀ can be ascertained from the graph
 - The threshold dose is the lowest dose that produces a response
102. Pharmacological testing of a new pharmacological compound with no prior known activity is known as
- Systematic screening
 - Simple screening
 - Blind screening
 - Programmed screening
103. Statement 1: A competitive antagonism can be reversed by increasing the concentration of antagonist
Statement 2: A non-competitive antagonism can be formed by a covalent bond between antagonist and receptor
- Only statement 1 is correct
 - Only statement 2 is correct
 - Both statements are false
 - Both statements are correct

104. Which of the following about isoflurane is FALSE?
- It undergoes very minimal metabolism
 - It has high blood solubility making it slow acting compared to other inhalant agents
 - It is more potent than enflurane
 - The concentration required is 2.5 to 4.5%
105. Identify the pair of ultrashort acting barbiturates
- Secobarbital and Thiopental
 - Mephobarbital and Phenobarbital
 - Methohexital and Thiopental
 - Phenobarbital and Thiamylal
106. Please identify the INCORRECT statement about dissociative anaesthetics
- They produce psychosomatic effects in man and animals
 - They act by stimulation of NMDA receptors
 - Phencyclidine has the longest duration of action
 - Oral and ocular reflexes are not abolished
107. A butyrophenone tranquilizer mainly indicated in swine
- Azaperone
 - Haloperidol
 - Fluanisone
 - Chlorprothixine
108. An opioid analgesic popularly available as transdermal patch
- Carfentanil
 - Buprenorphine
 - Fentanyl
 - Methadone
109. Which of the following about proton pump inhibitors is CORRECT?
- Omeprazole is ten times more potent than cimetidine
 - Omeprazole starts to act promptly without delay
 - They act at the small intestine
 - Pantoprazole and lansoprazole are enantiomers
110. The 5HT agonist that acts as prokinetic agent
- Domperidone
 - Tegaserod
 - Misoprostol
 - Nizatidine

111. Which of the following about irritant purgatives is FALSE?
- Castor oil releases anthraquinones to produce action
 - They increase the synthesis of cAMP of the intestine
 - Aloes produces a typically delayed onset after 12-18 hours
 - Regular usage is discouraged since it causes atony
112. An atropine congener used specifically as a bronchodilator
- Glycopyrronium
 - Propantheline
 - Tropicamide
 - Ipratropium
113. The mast cell stabilizer that has value in asthma management
- Zafirlukast
 - Nedocromil
 - Mometasone
 - Cetirizine
114. Assertion: Calcitonin can be used in hypocalcaemic states
Reason: It increases transfer of calcium from the bone into the extracellular fluid
- Assertion is correct but reason is wrong
 - Reason is correct but assertion is wrong
 - Both assertion and reason are correct
 - Both assertion and reason are wrong
115. The glucocorticoid used specifically for inhalation
- Triamcinolone acetonide
 - Mometasone
 - Budesonide
 - Betamethasone
116. A selective progesterone antagonist
- Alternogest
 - Flutamide
 - Letrozole
 - Mifepristone
117. Which of the following compounds produces repartitioning effect leading to better growth and muscle building?
- Erythromycin
 - Clenbuterol
 - Propranolol
 - Atenolol

118. Which of the following is FALSE of carbon di oxide as a euthanizing agent?
- It is approved for all species of small animals
 - It requires a concentration of 70% or more for euthanasia
 - It is lighter than air and occupies higher part of the chamber
 - With right concentration, it causes instant loss of sensation
119. The alpha 2 agonist that can produce sedation while allowing the animals to be walked and help in loading onto trucks
- Xylazine
 - Medetomidine
 - Dexmedetomidine
 - Romifidine
120. The agency responsible for the regulation of chemicals in European union is
- EPA
 - FIFRA
 - REACH
 - OECD



Key

1.	C
2.	D
3.	B
4.	D
5.	C
6.	A
7.	C
8.	A
9.	A
10.	A
11.	D
12.	B
13.	B
14.	A
15.	C
16.	D
17.	A
18.	C
19.	B
20.	C
21.	D
22.	B
23.	A
24.	D

25.	B
26.	B
27.	C
28.	C
29.	B
30.	C
31.	A
32.	B
33.	C
34.	C
35.	C
36.	B
37.	B
38.	A
39.	C
40.	C
41.	A
42.	A
43.	D
44.	B
45.	D
46.	D
47.	B
48.	C

49.	D
50.	A
51.	D
52.	B
53.	D
54.	A
55.	C
56.	B
57.	D
58.	B
59.	B
60.	C
61.	C
62.	B
63.	D
64.	D
65.	C
66.	B
67.	D
68.	A
69.	D
70.	C
71.	A
72.	B

73.	B
74.	A
75.	D
76.	D
77.	C
78.	D
79.	A
80.	B
81.	B
82.	A
83.	D
84.	B
85.	A
86.	B
87.	D
88.	C
89.	D
90.	B
91.	C
92.	C
93.	B
94.	D
95.	D
96.	D

97.	A
98.	C
99.	D
100.	B
101.	A
102.	C
103.	B
104.	B
105.	C
106.	B
107.	A
108.	C
109.	A
110.	B
111.	A
112.	D
113.	B
114.	D
115.	C
116.	D
117.	B
118.	C
119.	D
120.	C