



HOMEOSTASIS

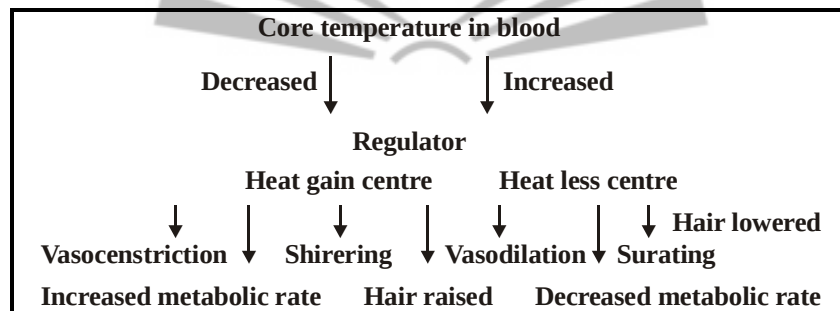
1. **The more concentrated environment is termed as:**
(A) Anisotonic (B) Isotonic
(C) Hypotonic (D) Hypertonic
2. **Mango plant is:**
(A) Mesophyte (B) Hydrophyte
(C) Xerophyte (D) None of the above
3. **The excretory system of Planaria called:**
(A) Metanephridium (B) Protonephridium
(C) Nephron (D) Nephridium
4. **In urea cycle, one molecule of Ammonia and one molecule of CO_2 combine with one molecule of ornithine to form:**
(A) Urea (B) Arginine
(C) Argininosuccinate (D) Citrulline
5. **Unlike an earthworm, metanephridia in mammalian nephron:**
(A) Filters blood instead of coelomic fluid
(B) Function in both osmoregulation and excretion of nitrogenous wastes
(C) Form urine by changing the composition of fluid inside the tubule
(D) Is intimately associated with a capillary network
6. **Which process in the nephron is least selective?**
(A) Filtration
(B) Transport across the epithelium of a collecting duct
(C) Reabsorption
(D) Secretion

7. **Malpighian tubules are excretory organs found in:**
(A) Vertebrate (B) Annelids
(C) Insects (D) Flatworms
8. **Amonia is secreted by most:**
(A) Adult amphibians (B) Organism that produce eggs
(C) Bony fishes (D) Insect
9. **The vertebrate liver functions in all the following regulatory processes except:**
(A) Detoxification of harmful chemicals
(B) Energy reserves in the formation of glycogen
(C) Production of Nitrogenous wastes
(D) Osmoregulation by variable excretion of salts
10. **Non-shivering thermogenesis is:**
(A) A hormone triggers the heat production by increasing metabolic rate
(B) A behavioral adaptation for absorbing heat in ectotherms
(C) Muscle contraction by movements as in winter months
(D) A heat producing method of large fishes
11. **Urea can be eliminated with quantity of water as compared to ammonia:**
(A) 1/10 (B) 1/20
(C) 1/5 (D) 1/50
12. **Oxalates are present in:**
(A) Meat (B) Tomatoes
(C) Green vegetable only (D) Green vegetable and tomatoes
13. **Movement of ground squirrel to burrows in midday heat is an:**
(A) Physiological adaptation (B) Structural adaptation
(C) Behavioral adaptation (D) Morphological & physiological adaptations
14. **Normal body temperature range between:**
(A) $36.1^{\circ}\text{C} - 37.8^{\circ}\text{C}$
(B) $36.0^{\circ}\text{C} - 38.8^{\circ}\text{C}$
(C) $36.7^{\circ}\text{C} - 37.8^{\circ}\text{C}$
(D) $37.1^{\circ}\text{C} - 38.6^{\circ}\text{C}$

15. **Humming bird belongs to a category called:**
(A) Heterothem (B) Poikilotherms
(C) Ectothem (D) Endotherm
16. **Vasodilation:**
(A) Nucleic acid (B) Increase the blood supply to the skin
(C) Protein (D) ADH
17. **Nitrogenous base:**
(A) Ectotherm (B) Protien
(C) Nucleic acid (D) ADH
18. **Reptile:**
(A) Protein (B) Ectotherm
(C) Nucleic acid (D) ADH
19. **Collecting duct:**
(A) ADH (B) Protein
(C) Ectotherm (D) Increase the blood supply to the skin
20. **Dialyzer:**
(A) 15% (B) Kidney machine
(C) Adrenal cortex (D) Presence of sweat gland
21. **Stone of uric acid:**
(A) Adrenal cortex (B) 15%
(C) Kidney machine (D) 10%
22. **Structural adaptation:**
(A) Presence of sweat gland (B) Liver
(C) Kidney machine (D) Adrenal cortex
23. **Aldosterone:**
(A) Presence of sweat gland (B) Adrenal cortex
(C) Liver (D) Kidney machine
24. **Nephron:**
(A) Passive loss of water from gills
(B) Kidney
(C) Large amount of hypotonic contain little salt
(D) Body fluid isotonic to external environment

25. **Fresh water fish:**
- (A) Body fluid isotonic to external environment
 - (B) Passive loss of water from gills
 - (C) Large amount of hypotonic urine contain little salt
 - (D) Kidney
26. **Bile:**
- (A) Liver
 - (B) Body fluid isotonic to external environment
 - (C) Kidney
 - (D) Large amount of hypotonic urine contain little salt
27. **Osmoconformers?**
- (A) Body fluid isotonic to external environment
 - (B) Passive loss of water from gills
 - (C) Large amount of hypotonic urine contain little salt
 - (D) Kidney
28. **Thermoreceptors:**
- (A) Cockroach
 - (B) Hypothalamus
 - (C) Loop of Henle
 - (D) Bowman capsule
29. **Uric acid:**
- (A) Cockroach
 - (B) Loop of Henle
 - (C) Bowman capsule
 - (D) Hypothalamus
30. **Lithotripsy:**
- (A) Cockroach
 - (B) Hypothalamus
 - (C) Loop of Henle
 - (D) Non-surgical removal of gall bladder stone
31. **Posterior lobe:**
- (A) Active transport
 - (B) Sensor
 - (C) Passive transport
 - (D) Ant diuretic hormone
32. **Ascending loop of Henle:**
- (A) Passive transport
 - (B) Active transport of Na^+ ions
 - (C) Sensor
 - (D) Native to cold region

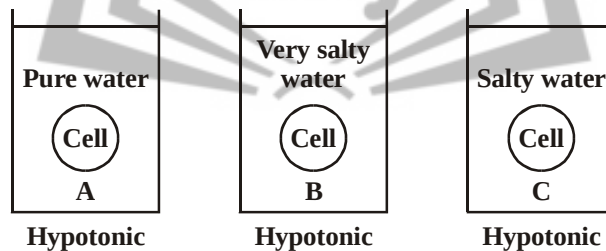
33. **Oak:**
 (A) Passive transport (B) Active transport
 (C) Sensor (D) Native to cold region
34. **Receptors:**
 (A) Sensor (B) Native to cold region
 (C) Antidiuretic Hormone (D) Passive transport
35. **Homeostasis is the process of maintaining a constant environment despite conditions:**
 (A) External internal (B) Internal external
 (C) Both (A) and (B) (D) None of these
36. **Homeostasis is based on:**
 (A) Thermoregulation only (B) Catabolism
 (C) Feed back mechanism (D) Anabolism
37. **Two major control centers for homeostasis are:**
 (A) Exocrine and endocrine glands (B) Apocrine and Heterocrine glands
 (C) Receptors and effectors (D) Brain and endocrine glands
38. **Which of the following activity is regulated by homeostasis?**
 (A) Temperature (B) Water balance
 (C) Blood sugar level (D) All (A), (B) and (C)
39. **What should be the Regulator in this chart?**



- (A) Medulla oblongata (B) Pituitary gland
 (C) Spinal cord (D) Hypothalamus
40. **What are the components of feed back mechanism?**
 (A) Receptors, insulators, effectors (B) Receptors, suppressors, effectors
 (C) Receptors, regulators, effectors (D) Receptors, depressors, effectors

41. A cell is placed in a solution and swells. This solution is:
(A) Isotonic to cell (B) Hypertonic to cell
(C) Hypotonic to cell (D) None of these
42. In an isotonic there would be:
(A) No net movement of water
(B) Net movement of water into the cell
(C) Net movement of water out of the cell
(D) Bursting of the cell
43. A cell whose internal salt concentration is 0.3 per liter is placed in a solution having salt concentration 0.5 per liter. The solution is:
(A) Isotonic to the cell (B) Hypotonic to the cell
(C) Hypertonic to cell (D) None of these
44. Osmosis is defined as:
(A) Flow of solvent through semi-permeable membrane from higher to less concentrated solution
(B) Flow of solvent through semi-permeable membrane from less to higher concentrated solution
(C) Flow of a solute from a semi-permeable membrane
(D) Flow of water without membrane
45. Plasmolysis of a human red blood cell would occur if the cell were:
(A) In an isotonic solution (B) In a hypertonic solution
(C) In a hypotonic solution (D) None of the above
46. When an animal cell is placed in a hypotonic environment, it will:
(A) Undergo cytolysis (B) Undergo plasmolysis
(C) Be at equilibrium (D) Its turgor pressure decreases
47. The contractile vacuole of a paramecium should be active when the paramecium is in:
(A) An isotonic environment (B) A hypotonic environment
(C) A hypertonic environment (D) Any environment
48. The tendency of a solution to take up water when separated from pure water by a selectively permeable membrane is called:
(A) Osmotic pressure (B) Turgor pressure
(C) Diffusion pressure deficit (D) Water potential

49. **Xerophytes have:**
(A) Deep roots for water uptake (B) Succulent stems for storage of water
(C) Few stomata to limit water loss (D) All (A), (B) and (C)
50. **A plant without cuticle in leaves and stem, having increased number of stomata, partially or completely submerged in water is:**
(A) Mesophyte (B) Hydrophyte
(C) Both (A) and (B) (D) Halophyte
51. **The entry of water from salty soil into roots of halophytes takes place because the root of halophytes develop:**
(A) High water potential (B) Low osmotic pressure
(C) Low water potential (D) All of these
52. **Animals that do not adjust their internal osmoregularity and are isotonic with their environment are:**
(A) Osmoconformers (B) Osmoregulators
(C) Thermoregulators (D) Thermoconformers
53. **Animals that are not isotonic with their environment and have developed mechanisms to regulate their internal solute and water concentrations are:**
(A) Osmoconformers (B) Osmoregulators
(C) Thermoregulators (D) Both (A) and (B)
54. **What is correct for diagram below?**



- (A) Cell "A" will lose H_2O , cell "B" will gain H_2O , Cell "C" neither gain nor loses H_2O
- (B) Cell "A" neither gains nor loses H_2O , Cell "B" will gain H_2O , Cell "C" will lose H_2O
- (C) Cell "A" will gain, Cell "B" neither gains nor loses H_2O , Cell "C" will lose H_2O
- (D) Cell "A" will gain H_2O , Cell "B" will lose H_2O , Cell "C" neither gains nor loses H_2O

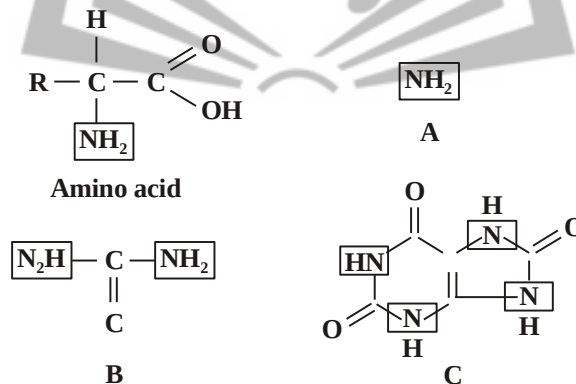
55. **An increase in blood sugar level triggers the release of the hormone insulin by the pancreas, the hormone insulin lowers blood sugar level restoring the body to its original blood glucose level by converting glucose to glycogen. This is an example of:**
- (A) Positive feed back (B) Negative feed back
(C) Homeostatic imbalance (D) None of these
56. **A fish in fresh water:**
- (A) Produces dilute urine (B) Have a hypertonic body
(C) Produces concentrated urine (D) (A) and (B)
57. **To hags fishes, sea water is:**
- (A) Isotonic (B) Hypotonic
(C) Hypertonic (D) None of these
58. **A fish in marine water:**
- (A) Produces concentrated urine (B) Have a hypotonic body
(C) Produces dilute urine (D) (A) and (B)
59. **Metabolic water is:**
- (A) Water outside the cells of animals
(B) Produced by oxidation of fats
(C) Useful to desert mammals
(D) (B) and (C)
60. **Plants do not excrete ammonia, urea and uric acid because:**
- (A) They lack nitrogenous waste
(B) Their metabolism is protein based
(C) Their nitrogenous products are recycled
(D) All (A), (B) and (C)
61. **Plants excrete:**
- (A) Excess water (B) Excess oxygen
(C) Excess carbon dioxide (D) All (A), (B) and (C)
62. **Which one of the following has maximum toxicity?**
- (A) Ammonia (B) Urea
(C) Uric acid (D) Creatinine

63. Which one of the following has medium toxicity?
(A) Ammonia (B) Urea
(C) Uric acid (D) Water
64. Which one of the following has least toxicity?
(A) Ammonia (B) Urea
(C) Uric acid (D) All are highly toxic
65. Guttation take place through:
(A) Stomata (B) Injured tissue
(C) Lenticels (D) Hydathodes
66. The excretory organs of Planaria are known as:
(A) Protonephridia (B) Flame cells
(C) Both (A) and (B) (D) Metanephridia
67. Tubular excretory system of earth worm consists of:
(A) Protonephridia (B) Coxal gland
(C) Malpighian tubules (D) Metanephridia
68. The internal opening of the metanephridium is known as:
(A) Nephrostoms (B) Nephridiopore
(C) Excretory pore (D) All (A), (B) and (C)
69. Liver Synthesizes:
(A) Non-essential aminoacids (B) Plasma proteins
(C) Cholesterol (D) All (A), (B) and (C)
70. In humans, excess nitrogen is eliminated from the body by mainly converting it to:
(A) Urea (B) Uric acid
(C) Ammonia (D) Amine phosphate
71. The liver is:
(A) Smallest internal organ (B) Medium-sized internal organ
(C) Body's largest internal organ (D) All options are incorrect
72. The three major body fuels managed by the liver are:
(A) Protein, vitamins and minerals (B) Carbohydrate, fat and protein
(C) Glucose, fructose and sucrose (D) Glucose, iron and protein

73. **Pigments found in bile are formed during catabolism:**
(A) Haem catabolism (B) Globin catabolism
(C) Cholesterol catabolism (D) Both (A) and (C)
74. **The nephron is:**
(A) The site of urine storage (B) The function unit of the kidney
(C) The site where ADH is produced (D) Also called the "Bowman's capsule"
75. **From the distal convoluted tubule, filtrate will be carried to the:**
(A) Renal corpuscle (B) Collecting duct
(C) Nephron loop (D) Proximal convoluted tubule
76. **All of the following are normally found in urine except:**
(A) Sodium ions (B) Uric acid
(C) Creatinine (D) Glucose
77. **Hormone regulates the transfer of sodium from the nephron to the blood:**
(A) Parathormone (B) Anti-diuretic
(C) Aldosterone (D) Vasopression
78. **Conversion of ammonia into urea, occurs in:**
(A) Kidneys (B) Lungs
(C) Intestine (D) Liver
79. **Separation of amino acid into amino and carboxyl group is known as:**
(A) Amination (B) Excretion
(C) Deamination (D) Egestion
80. **Uric acid is the chief nitrogenous waste material in the excretory system of:**
(A) Reptiles (B) Birds
(C) Insects (D) All of these
81. **Which of the following is not structure of kidney:**
(A) Cortex (B) Medulla
(C) Pelvis (D) Urethra
82. **In mammalian kidney, the pyramids are seen in:**
(A) Cortex (B) Medulla
(C) Pelvis (D) Hilus

83. The number of nephrons in ONE kidney of man is:
(A) 4 million (B) 2 million
(C) 8 million (D) 1 million
84. ADH increases ----- of -----from the collecting duct:
(A) Absorption, sodium (B) Diffusion, chlorine
(C) Absorption, water (D) Diffusion, Ammonia
85. Two counter-current systems are formed in the kidney by the:
(A) Henle's loop and PCT (B) Henle's loop and DCT
(C) Henle's loop and collecting duct (D) Henle's loop and vasa rectae
86. Cholesterol is excreted in the:
(A) Sebum (B) Bile
(C) Sweat (D) Both (A) and (B)
87. Malpighian body is composed of:
(A) Bowman's capsule only (B) Glomerulus only
(C) Bowman's capsule & Glomerulus (D) Henle's loop and vasa rectae
88. Daily urine output of man is:
(A) 1-2 liters (B) 1-3 liters
(C) 1-4 liters (D) 1-5 liters
89. Tubular structure which carries urine from bladder to outside:
(A) Ureter (B) Hilus
(C) Pelvis (D) Urethra
90. Ultrafiltration occurs in:
(A) Bowman's capsule (B) Proximal convoluted tube
(C) Henle's loop (D) Distal convoluted tube
91. The greater the demand of conserving water, the greater would be the number of:
(A) Juxta-medullary nephrons (B) Cortical nephrons
(C) Capillaries of glomerulus (D) Both (A) and (B)

92. Each kidney is enclosed by a thin membranous covering called:
 (A) Peritonium (B) Peritreme
 (C) Perizonium (D) All (A), (B) and (C)
93. Ph of human urine is:
 (A) 7.4 (B) 3.5
 (C) 5.00 (D) 8.00
94. The hormone which increases the reabsorption of calcium ions in nephron is:
 (A) Aldosterone (B) Parathormone
 (C) Anti-diuretic (D) Vasopression
95. The process by which some poisonous substances are secreted from peritubular capillaries into nephric filtrate is termed as:
 (A) Tubular reabsorption (B) Tubular secretion
 (C) Counter-current exchange (D) None of these
96. It is a cyclic process of enzymatic reactions which operates in the liver cells as a result of which urea is formed from ammonia, carbondioxide and NH_2 group:
 (A) Ornithine cycle (B) Citruline cycle
 (C) Arginine cycle (D) All of these
97. Select the correct for nitrogenous wastes in this diagram:

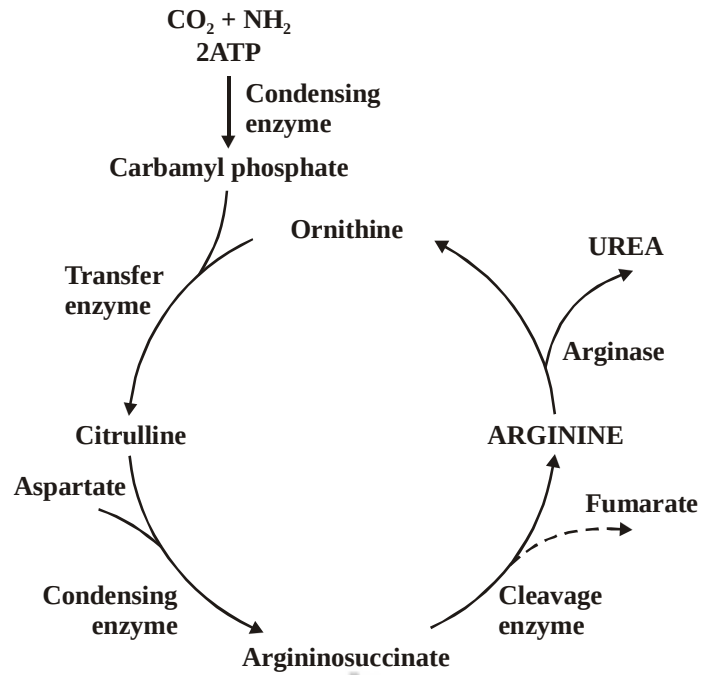


- (A) "A" Urea "B" ammonia "C" uric acids
 (B) "A" uric acid "B" ammonia "C" urea
 (C) "A" Ammonia "B" urea "C" uric acid
 (D) "A" Ammonia "B" uric acid "C" urea

- 98. Blood enters the kidney through a branch of aorta called:**
- (A) Afferent arteriole (B) Renal artery
(C) Efferent arteriole (D) Renal vein
- 99. A capillary tuft from which fluid leaves the circulatory system:**
- (A) Bowman capsule (B) Proximal convoluted tube
(C) Glomerulus (D) Loop of Henle
- 100. In ectotherms and endotherms heat can be lost through:**
- (A) Evaporation (B) Radiation
(C) Convection (D) All (A), (B) and (C)
- 101. Percentage of kidney stones composed of calcium oxalate phosphate:**
- (A) 5% (B) 20%
(C) 70% (D) 90%
- 102. About % of kidney stones composed of uric acid:**
- (A) 5% (B) 20%
(C) 70% (D) 90%
- 103. Dialysis cleans the blood by:**
- (A) An artificial kidney (B) Filtering it within abdomen
(C) Removing glucose from blood (D) Both (A) and (B)
- 104. Haemodialysis means:**
- (A) Removing the blood (B) Cleaning the blood
(C) Diluting the blood (D) All options are correct
- 105. These are animals that produce metabolic heat at low rates and rely primarily on conditions of their surroundings:**
- (A) Endotherms (B) Heterotherms
(C) Ectotherms (D) Both (B) and (C)

- 106. These are animals capable of varying degrees of endothermic heat production, but they generally do not regulate body temperature within as narrow a range as endotherms:**
- (A) Ectotherms (B) Poikilotherms
(C) Heterotherms (D) None of these
- 107. It is technique of breaking stones inside kidneys, ureters and urinary bladder:**
- (A) Lithotrophy (B) Lithography
(C) Lithotripsy (D) All options are correct
- 108. Mammals maintain their body temperature within a range of:**
- (A) 25°C to 35°C (B) 30°C to 40°C
(C) 36°C to 43°C (D) 36°C to 38°C
- 109. Birds maintain their body temperature within a range of:**
- (A) 25°C to 35°C (B) 30°C to 40°C
(C) 41°C to 43°C (D) 36°C to 38°C
- 110. Regulation of body temperature in homiotherms during high environmental temperature involve:**
- (A) Vaso-dilation (B) Lowering the hairs
(C) Reduction in sub-cutaneous fat (D) All (A), (B) and (C)
- 111. Regulation of body temperature in homiotherms during cold environmental temperature involve:**
- (A) Vaso-contraction (B) Erection of hairs
(C) Increase in sub-cutaneous fat (D) All (A), (B) and (C)
- 112. Displace the set point of hypothalamus above the normal point of 37°C:**
- (A) Pyrenins (B) Pyridoxins
(C) Pyrogens (D) All (A), (B) and (C)
- 113. An animal when taken into hot area loses heat by sweating and when to cold area increases muscular activity to produce more heat. The animal is:**
- (A) Homeothermic (B) Poikilothermic
(C) Ectothermic (D) None of these

114. Which cycle is shown in this diagram?



(A) Ornithine cycle

(B) Urea cycle

(C) Urine cycle

(D) Both (A) and (B)

Answers

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