

DIFFUSION, OSMOSIS & RELATED TERMS

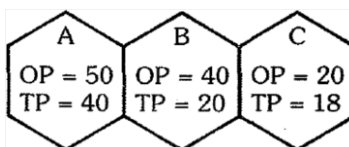
1. One molar solution of which substance will have maximum O. P. :-
(1) NaCl (2) Glucose (3) Fructose (4) Starch
2. Pieces of beet root do not lose their colour in cold water, but do so in boiling water because :-
(1) The cell wall is killed in boiling water
(2) Hot water can enter the cells readily
(3) The plasma membrane gets killed in boiling water and becomes permeable
(4) The pigment is not soluble in cold water
3. Osmosis is the diffusion of a solution of a weaker concentration when both are separated by semi-permeable membrane. What is error in the statement.
(1) The movement of solvent molecule is not specified
(2) There is no mention of DPD
(3) Behavior of semi permeable membrane is not specified
(4) The exact concentration of solutions are not indicated
4. What statement can be cited for 10% sodium chloride solution and 10% sugar solution present?
(1) Both have equal OP
(2) The concentration of sodium chloride solution will be less than concentration of sugar solution
(3) The OP of sugar solution will be higher than OP of sodium chloride solution
(4) DPD of sodium chloride solution will be higher than DPP of sugar solution
5. If a cell is reduced in size (shrinks) when placing in a solution of sugar, the solution is :-
(1) Hypertonic (2) Hypotonic (3) Isotonic (4) None of the above
6. The process of osmosis involves :-
(1) Movement of solute through a semi permeable membrane
(2) Movement of solvent through a semi permeable membrane
(3) Movement of solution through semi permeable membrane
(4) None of the above
7. A cell increases in volume if the external medium is
(1) Hypotonic
(2) Slightly hypertonic
(3) Isotonic
(4) Much more concentrated than the protoplasm of the cell
8. Process of selective transmission of a liquid through semi permeable membrane is called :-
(1) Diffusion (2) Osmosis (3) Plasmolysis (4) Transmission

9. Water enters into the root hair from soil in its normal condition because the osmotic pressure of the soil solution :-
 (1) Remains lesser than that of root hair sap
 (2) Remains equal to that of root hair sap
 (3) Remains higher than that of root hair sap
 (4) And that of root hair sap remains zero
10. Potato slices are immersed in a series of solution of different osmotic concentrations. No change in volume of weight is observed with slices in a 0.3 M solution. The osmotic concentration of vacuolar sap, therefore :-
 (1) 0.3 M (2) Greater than 0.3 M
 (3) Less than 0.3 M (4) Not related at all the out side solution
11. Which help in maintaining form and structure of cells & soft parts of plants?
 (1) Osmotic pressure (2) Turgor pressure
 (3) Atmospheric pressure (4) DPD
12. When a plant cell is placed in a hypotonic solution, Which of the following will not apply?
 (1) Wall pressure is decreased
 (2) The cell become turgid
 (3) Suction pressure of the cell sap will decrease
 (4) Water potential of the cell sap will increase
13. If osmotic potential of a cell is (-10 bars) and its pressure potential is 5 bars, its water potential would be:-
 (1) - 5 bars (2) 5 bars (3) -10 bars (4) 10 bars
14. Tonoplast is:-
 (1) Permeable membrane (2) Semi permeable membrane
 (3) Impermeable membrane (4) Selectively permeable membrane
15. If in a cell suction pressure value is 30 atm while osmotic pressure 42 atm then calculate the turgidity developed in form of TP in the cell :-
 (1) 12 atm. (2) 72 atm. (3) -12 atm. (4) 1.4 atm.
16. The osmotic pressure is due to :-
 (1) Solute (2) Semi permeable membrane
 (3) Hypertonic solution (4) Water

DPD (SP)

17. When a cell is fully turgid which of the following will be zero ?
 (1) Turgor pressure (2) Wall pressure (3) Suction pressure (4) Osmotic pressure
18. Water from the soil enters in to the root hairs on account of:-
 (1) Turgor pressure (2) Suction pressure or DPD
 (3) Atmospheric pressure (4) Osmotic pressure
19. In a fully turgid cell the values of DPD, OP and TP should be:-

- (1) $DPD = 10 \text{ atm.}$, $OP = 15 \text{ atm.}$, $TP = 5 \text{ atm.}$
 (2) $DPD = 5 \text{ atm.}$, $OP = 12 \text{ atm.}$, $TP = 7 \text{ atm.}$
 (3) $DPD = 2 \text{ atm.}$, $OP = 7 \text{ atm.}$, $TP = 5 \text{ atm.}$
 (4) $DPD = 0 \text{ atm.}$, $OP = 15 \text{ atm.}$, $TP = 15 \text{ atm.}$
20. What is the direction of the movement of water if two cells have the same OP but differ in TP ?
 (1) No net flow (2) From lower T.P to higher TP
 (3) From higher TP to lower TP (4) Data insufficient
21. The hydrostatic pressure developed in the cell is called:-
 (1) Turgor pressure (2) Wall pressure (3) Osmotic pressure (4) Suction pressure
22. When water enters into a cell what happens to its OP, TP and DPD ?
 (1) OP & TP increase & its DPD increase (2) OP & DPD increase & TP decrease
 (3) TP & DPD decrease & OP increase (4) OP & DPD decrease & TP increase
23. Under natural conditions the osmotic pressure is :-
 (1) More than turgor pressure (2) Less than turgor pressure
 (3) Equal to turgor pressure (4) Zero
24. What maintains the shape of a cell ?
 (1) Osmotic pressure (2) Turgor pressure
 (3) Suction pressure (4) Wall-pressure
25. Osmotic potential is numerically equal to :-
 (1) Turgor pressure (2) Wall pressure (3) Osmotic pressure (4) D.P.D.
26. You are given three cells, a root hair, a cell of the inner cortical layer of root and a cell of the mesophyll arrange them in ascending order of DPD :-
 (1) Root hair < Cortical cell < Mesophyll (2) Cortical cell < Mesophyll < Root hair
 (3) Mesophyll < Root hair < Cortical cell (4) Root hair < Mesophyll < Cortical cell
27. The direction of the movement of water :-
 (1) From low OP to high OP (2) From low DPD to high DPD
 (3) From high DP to low DP (4) All of the above
28. The entry of water from the soil up to xylem elements of root is due to :-
 (1) Gradient of suction pressure (2) Turgor pressure
 (3) Degree of imbibitions (4) Concentration of ions in water
29. The three cells A, B & C are joined in a linear manner. Demonstrate the movement of water & direction in these ?



- (1) $A \rightarrow B \rightarrow C$ (2) $A \leftarrow B \leftarrow C$ (3) $A \rightarrow B \leftarrow C$ (4) $A \leftarrow B \rightarrow C$

30. When the solute has been added in the solution, then following observation can be made ?
 (1) The DPD of the solution decreases
 (2) The Ψ_w of the solution increases
 (3) DPD of the solution decreases while its Ψ_w increases
 (4) DPD of the solution increases while its Ψ_w decreases
31. In a flaccid cell which condition does not occur-
 (1) $TP = 0$ (2) $SP = 0$ (3) $WP = 0$ (4) $SP = OP$
32. Osmotic pressure of a cell is zero when:
 (1) T.P. is maximum (2) DPD is maximum (3) T.P. is zero (4) Not possible
33. The accurate relationship between SP, OP, TP can be expressed as -
 (1) $SP = OP + TP$ (2) $OP = SP - TP$ (3) $TP = SP - OP$ (4) $SP = OP - TP$
34. In which condition the Turgor pressure of the cell becomes equal to the osmotic pressure :-
 (1) In flaccid cell (2) In plasmolysed cell
 (3) In fully turgid cell (4) It never happens
35. Select the correct statement -
 (1) Pure water has minimum Ψ_w (2) Pure water has maximum Ψ_w
 (3) Pure water has maximum D.P.D. (4) Pure water has variable Ψ_w & D.P.D.
36. The best condition by which fully turgid cell can be identified is :-
 (1) TP is minimum (2) SP is maximum (3) OP less than SP (4) $TP = OP$

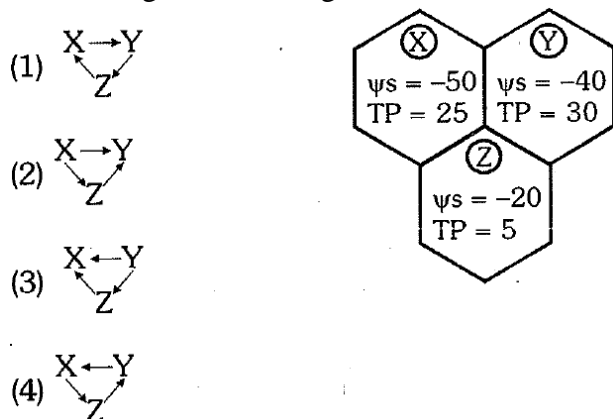
PLASMOLYSIS & PERMEABILITY

37. Along with plasmolysis which decreases in the cell-
 (1) Osmotic pressure (2) Diffusion pressure deficit
 (3) Imbibition pressure (4) Turgor pressure
38. If a plasmolysed cell is placed in distilled water then it returns to its original state & become turgid, this is called as :-
 (1) Plasmolysis (2) Exosmosis (3) Imbibition (4) Deplasmolysis
39. Plant cells do not burst in distilled water because :
 (1) Cell wall is permeable
 (2) Cell wall is living
 (3) Cell wall is elastic, rigid and get stretched
 (4) Cell wall is dead and impermeable
40. When a plant cell is placed in a hypertonic solution it becomes plasmolysed what shall be present between cell wall and plasmalemma at this stage ?
 (1) Water and air (2) Cell sap
 (3) Hypertonic solution (4) Solutes

WATER POTENTIAL

41. Value of water potential for pure water is:-
 (1) 1 (2) 2 (3) 3 (4) Zero
42. Water potential is affected by:
 (1) Osmotic potential (2) Pressure potential
 (3) Both (1) and (2) (4) None of the above
43. When the solute has been added to the solution its water potential will ?
 (1) Increases (2) Decreases
 (3) Remain unchanged (4) First increases then decreases
44. Water potential of a cell when it is placed in hypertonic solution :-
 (1) Decreases (2) Increases
 (3) First increases then decreases (4) No change
45. Osmotic potential (Ψ_s) of a free solution is always:
 (1) Positive (2) Negative (3) Zero (4) Variable
46. Water potential (Ψ) of a free solution is always :
 (1) + Ve (2) - Ve (3) Zero (4) Variable
47. If the DPD of a cell becomes zero, it is said to be in :-
 (1) Fully turgid state (2) Flaccid state
 (3) Incipiently plasmolysed state (4) Completely plasmolysed state
48. A root hair cell under ordinary conditions has a water potential in the range of :-
 (1) -1 to -4 atm. (2) -1 to +4 atm. (3) 1 to 2 atm. (4) -1 to 2 atm.
49. The solute potential can be determined in a simple manner by :-
 (1) Water potential (2) DPD (3) Osmotic pressure (4) Suction pressure
50. The accurate equation for presenting water potential is :-
 (1) $\Psi_w = \Psi_s + \Psi_p$ (2) $\Psi_s = \Psi_w + \Psi_p$ (3) $\Psi_w = \Psi_s - \Psi_p$ (4) $\Psi_w = -\Psi_s - \Psi_p$
51. The direction of the water flow in given cells X, Y & Z can be presented as :-
- Diagram showing three adjacent plant cells labeled X, Y, and Z. Cell X has $\Psi_s = -30$ and $TP = 10$. Cell Y has $\Psi_s = -50$ and $TP = 20$. Cell Z has $\Psi_s = -40$ and $TP = 30$.
- (1) $X \rightarrow Y \leftarrow Z$ (2) $X \rightarrow Y \rightarrow Z$ (3) $X \leftarrow Y \leftarrow Z$ (4) $X \leftarrow Y \rightarrow Z$
52. The water potential & osmotic potential of pure water is :-
 (1) 100 & zero (2) Zero & zero (3) 100 & 200 (4) Zero & 100
53. If the solute is added to the given solution then what observation can be made :-
 (1) Its DPD decreases
 (2) Its water potential decreases
 (3) DPD & water potential remains unchanged
 (4) Its water potential increases

54. If three cells X, Y and Z are joined to each other & their solute potential & Turgor pressure values are given in the figure; then demonstrate the direction of flow of water in this system :



55. If OP of 1 M solution of non electrolyte is 22.4 bar then in 0.1 M solution Ψ_w value will be :-
 (1) zero bar (2) + 2.3 bar (3) -2.3 bar (4) -22.4 bar
56. The Ψ_w of pure water is :-
 (1) Minimum (2) Less than DPD (3) Maximum (4) Variable
57. If the OP of any osmotic system is 35 atm and its turgor pressure 9 units. Find out water potential present in the osmotic system :-
 (1) -44 unit (2) -26 unit (3) 26 unit (4) -3.88 unit

IMBIBITION

58. Seeds swell when placed in water due to :-
 (1) Osmosis (2) Imbibitions (3) Hydrolysis (4) All of these
59. During rainy season wooden doors generally swell up due to :-
 (1) Osmosis (2) Imbibitions (3) Bad workmanship (4) Wood quality
60. The most powerful imbibant is :-
 (1) Agar-agar (2) Proteins (3) Cellulose (4) Lignin
61. First step of influx of water into a plant (or) a root hair cell (or) a seed is :-
 (1) Osmosis (2) Imbibitions (3) Absorption (4) Suction
62. The right sequence for imbibitions is :-
 (1) Agar agar > cellulose > protein (2) Protein > cellulose > agar agar
 (3) Agar agar > protein > cellulose (4) Agar agar < protein < cellulose
63. To initiate cell plasmolysis, the solution concentration must be:-
 (1) Isotonic (2) Hypotonic (3) Hypertonic (4) Atonic

WATER ABSORPTION

64. The pathway of water from soil upto the xylem :-
 (1) Soil → root hair → cortex → endodermis → pericycle → protoxylem → Meta xylem
 (2) Metaxylem → protoxylem → pericycle → cortex → endodermis → soil → root hair
 (3) Cortex → root hair → endodermis → pericycle → protoxylem → metaxylem
 (4) Pericycle → soil → root hair → cortex → endodermis → protoxylem → metaxylem
65. Symplast includes all the following except:-
 (1) Cytoplasm (2) Cell wall (3) Cell membrane (4) Plasmodesmata
66. In a root absorption of water takes place through :-
 (1) Root cap region (2) Root hair region
 (3) Zone of elongation (4) Mature region with a corky layer
67. Absorption of water is increased when :-
 (1) Transpiration is increased (2) Photosynthesis is increased
 (3) Respiration is increased (4) Root pressure is increased
68. Passive absorption of water/ions from the soil by the root is mainly effected by :-
 (1) Typical tissue organization (2) Respiratory activity of root
 (3) Tension on cell sap due to transpiration (4) None of the above
69. Active absorption of ions from the soil by the root is mainly effected by :-
 (1) Typical tissue organization (2) Respiratory activity of root
 (3) Tension on cell sap due to transpiration (4) None of the above
70. If movement of water occurs through intercellular spaces then it is the :-
 (1) Symplast pathway (2) Either symplast or apoplast pathway
 (3) Neither symplast nor apoplast pathway (4) Apoplast pathway

ASCENT OF SAP AND PHLOEM TRANSPORT

71. Water rises in the stem due to :-
 (1) Cohesion and transpiration pull (2) Turgor pressure
 (3) Osmotic pressure (4) None
72. Ascent of sap in woody stem occurs mainly due to:-
 (1) Transpiration pull (2) Capillarity
 (3) Molecular adhesion (4) Photosynthesis
73. Dixon and Jolly are associated with:-
 (1) Light reaction and photosynthesis
 (2) An aerobic respiration
 (3) Cohesion and transpiration pull theory of ascent of sap
 (4) Apical dominance
74. The continuity of water column in xylem is maintained due to :-
 (1) Presence of air bubbles (2) Cohesive property of water
 (3) Evaporation power of water (4) None of the above

75. Attractive forces of cell walls for water molecules is termed as:-
 (1) Adhesion (2) Cohesion (3) Osmosis (4) Plasmolysis
76. Which tissue are removed when a plant is girdled ?
 (1) Xylem and pith (2) Xylem and phloem
 (3) Phloem to epidermis (4) Phloem to pith
77. Removal of a ring of bark from the trunk of a tree eventually kills it because :-
 (1) Water can not go up (2) Fungi & insects attack exposed parts
 (3) Food does not travel towards root (4) Air blocks the xylem
78. Which would do maximum harm to a tree ?
 (1) The loss of half of its leaves (2) The loss of all of its leaves
 (3) The loss of half of its branches (4) The loss of its bark
79. Ringing experiment can not be done on a sugar cane plant because :-
 (1) Its xylem is scanty (2) Its phloem is with out phloem parenchyma
 (3) Its vascular bundles are scattered (4) Its phloem is present inside the xylem
80. In plants the translocation of organic solutes take place through :-
 (1) Epidermis (2) Xylem (3) Phloem (4) Pith
81. The conduction of water from root hair to root xylem is:-
 (1) Symplastic (2) Apoplastic
 (3) Osmotically (4) Symplastic + Apoplastic

TRANSPORT

82. Opening of stomata is due to :-
 (1) Turgidity of guard cells (2) Size of guard cells
 (3) Number of guard cells (4) Amount of CO₂ in the atmosphere
83. Transpiration in plants will be lowest when :-
 (1) There is high humidity in the atmosphere
 (2) High wind velocity
 (3) There is excess of water in the soil
 (4) Environmental conditions are very dry
84. The metal ion involved in the stomatal regulation is
 (1) Iron (2) Magnesium (3) Zinc (4) Potassium
85. The following percentage of water absorbed by herbaceous plants is lost in transpiration :-
 (1) 80% (2) 60% (3) 40% (4) 99%
86. Transpiration from plants would be most rapid when
 (1) There is lot of humidity in atmosphere

- (2) The air is more humid
 (3) There is excess rain fall
 (4) Environmental conditions are dry
87. Processes occur in leaves, which may lower their temperature is :-
 (1) Respiration (2) Photosynthesis (3) Hydrolysis (4) Transpiration
88. Wilting of a plant result from excessive :-
 (1) Respiration (2) Photosynthesis (3) Absorption (4) Transpiration
89. Leaves which appear wilted in .the day time recover at night because :-
 (1) Light is essential for photo synthesis
 (2) The stomata close down, temperature decrease, transpiration is reduced and the plant is able to absorb more water from the soil
 (3) Respiration and translocation of organic substance both increases
 (4) The plant is sleeping because of dark conditions
90. Conversion of starch to organic acid is essential for
 (1) Stomatal closure (2) Stomatal opening
 (3) Stbmatal initiation (4) Stomatal growth
91. Increase in CO₂ concentration around leaf results in:-
 (1) Rapid opening of stomata (2) Partial closure of stomata
 (3) Complete closure of stomata (4) No effect on stomatal opening
92. Which of the following side of wall of guard cells' is thick?
 (1) Outer (2) Inner (3) Sidewall (4) All the three
93. Potometer is used to study :-
 (1) Photosynthesis (2) Growth (3) Geotropism (4) Transpiration
94. Which type of transpiration is more common :-
 (1) Cuticular (2) Stomatal (3) Lenticular (4) Bark transpiration
95. The spray of PMA causes:
 (1) Decrease in transpiration (2) Increase in transpiration
 (3) Increase in absorption (4) Increase in guttation
96. Which of the following is produced during water stress condition ?
 (1) Cytokinin (2) ABA (3) Phytochrome (4)ATPase
97. Which chemical is used to detect transpiration comparatively ?
 (1) Calcium carbonate (2) Cobalt carbonate
 (3) Cobalt chloride (4) Mercuric .acetate
98. Which of the following substance serve as an anti-transpirant in plant ?

- (1) Phenyl mercuric acetate (2) Aspirin
(3) Silicon oil (4) All of these
99. The most important factor affecting transpiration is
(1) Light (2) Temperature (3) Wind (4) Atmospheric humidity
100. For plants transpiration is:
(1) Not very important (2) Important to some
(3) A necessary evil (4) An important burden
101. Shape of guard cells in gramineae family:-
(1) Kidney shaped (2) Oval (3) Round (4) Dumbel shaped
102. With decrease in atmospheric pressure the rate of transpiration will :-
(1) Remain unaffected (2) Increased
(3) Decrease slowly (4) Decrease rapidly
103. Which one of the following will reduce the rate of transpiration ?
(1) Increase in wind velocity (2) Rise in temperature
(3) Increase in water uptake by plants (4) Decrease in light intensity
104. The most important function of transpiration in plants is to cause :-
(1) Loss of surplus water (2) Cooling of the plant
(3) Rapid ascent of sap (4) Rapid rise of minerals
105. The change in turgor pressure which causes the opening and closing of Stomata is caused by :
(1) Reversible starch-sugar conversions (2) Reversible absorption and loss of K-ions
(3) Loss of chloride ions (4) None of these
106. Before opening of stomata accumulation of the following ion is seen in :-
(1) PO_4 (2) K^+ (3) Mg^{++} (4) Na^+
107. Guard cells differ from other epidermal cells in having:-
(1) Large vacuoles (2) Secondary walls
(3) Chloroplast (4) Absence of mitochondria
108. Active K^+ & H^+ exchange theory explained
(1) Ascent of sap (2) phloem conduction
(3) Ion absorption (4) Stomatal movement
109. Potometer works on the principle of:
(1) Amount of water absorbed equals the amount transpired
(2) Osmotic pressure
(3) Root pressure
(4) Potential difference between the tip of the tube and that of the plant
110. Stomata of a plant open due to :
(1) Influx of potassium ions (2) Efflux of potassium ions

(3) Influx of hydrogen ions

(4) Influx of calcium ions

111. Due to increasing the temperature, transpiration :-

(1) Increases

(2) Decreases

(3) First increases then decreases

(4) Unaffected

112. If temperature remains constant then with increasing altitude, the transpiration will :-

(1) Increases

(2) Decreases

(3) First decreases then increases

(4) Unaffected

113. Transpiration increases when atmospheric temperature rises, due to:-

(1) Wider opening of stomata

(2) Stomatal opening becomes narrow

(3) Water holding capacity of the air increases

(4) More photosynthesis in guard cells

114. Due to more wind velocity, the transpiration rate will be:-

(1) Less

(2) More

(3) Unaffected

(4) First increases then decreases

115. Foliar transpiration :-

(1) Includes stomatal and cuticular transpiration

(2) Does not occur

(3) Includes all type of transpiration

(4) Shows stomatal transpiration

GUTTATION, BLEEDING, ROOT PRESSURE

116. Root pressure is maximum, when:-

(1) Transpiration is high and absorption is very low

(2) Transpiration is very low and absorption is high

(3) Absorption is very high and transpiration is also very high

(4) Absorption is low and transpiration is also very low

117. The process of the escape of liquid from the tip of uninjured leaf is called :-

(1) Evaporation

(2) Transpiration

(3) Guttation

(4) Evapo-transpiration

118. Guttation take place during night when :-

(1) Root pressure is positive

(2) Root pressure is negative

(3) Always take place

(4) It does not takes place at all

119. The hydathodes are related with :

(1) Transpiration

(2) Guttation

(3) Bleeding

(4) All

120. Root pressure can be measured by the instrument
 (1) Potometer (2) Auxenometer (3) Manometer (4) Barometer
121. Which conditions favours "Guttation"?
 (1) High water absorption (2) High transpiration
 (3) Low transpiration (4) 1 and 3 both
122. When stem of a herbaceous plant is cut, water or sap oozes out, this is due to ?
 (1) Guttation (2) Transpiration pull
 (3) Root pressure (4) Imbibition
123. Hydathodes open during :
 (1) Night hours (2) Day hours (3) Noon hours (4) Always open
124. Water of guttation is :
 (1) Pure water (2) Water with dissolved salts
 (3) Solution of organic food (4) Condensed water vapour
125. Cells present below hydathodes are-
 (1) Complementary cells (2) Epithem cells
 (3) Guard cells (4) Kranz cells
126. The process by which toddy is obtained :-
 (1) Guttation (2) Transpiration (3) Bleeding (4) All
127. The whitish powder around hydathode is due to :-
 (1) Guttation (2) Salt depositon from air
 (3) Salt formation over surface (4) Bleeding

ANSWER KEY

EXERCISE-I (Conceptual Question)

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

99.	(4)	100.	(3)	101.	(4)	102.	(2)	103.	(4)	104.	(2)	105.	(2)
106.	(2)	107.	(3)	108.	(4)	109.	(1)	110.	(1)	111.	(3)	112.	(1)
113.	(3)	114.	(4)	115.	(1)	116.	(2)	117.	(3)	118.	(1)	119.	(2)
120.	(3)	121.	(4)	122.	(3)	123.	(4)	124.	(2)	125.	(2)	126.	(3)
127.	(1)												