BIOLOGY

BOOKS - SARAS PUBLICATION

TRANSPORT IN PLANTs

Exercise

1. In a fully turgid cell

A. DPD = 10 atm, OP = 5 atm, TP = 10 atm.

B. DPD = 0 atm, OP = 10 atm, TP = 10 atm

C. DPD = 0 atm, OP = 5 atm, TP = 10 atm

D. DPD = 20 atm, OP = 20 atm, TP= 10 atm

Answer:

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2. Which among the following is correct ?

(i) apoplast is fastest and operate in non-living part

(ii) Transmembrane route includes vacuole

(iii) symplast interconnect the nearby cell through plasmadesmata

(iv) symplast and transmembrane route are in living part of the cell

A. Apoplast is fastest and operate in nonliving part

B. Transmembrane route includes vacuole

C. Symplast interconnectss the nearby cell through plasmadesmata.

D. Symplast and transmembrane route are in living part of the cell

Answer:

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3. What type of transpiration is possible in the xerophyte Opuntia ?

A. Stomatal

B. Lenticular

C. Cuticular

D. All the above

Answer:

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4. Stomata of a plant open due to

A. Influx of K^+

B. Efflux of K^+

C. Influx of Cl^+

D. Influx of OH^+

Answer:

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5. Munch hypothesis is based on

A. Translocation of food due to TP gradient and imbibition force

B. Translocation of food due to TP

C. Translocation of food due to imbibition force

D. None of the above.

Answer:

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6. List out the non- photosynthetic parts of a plant that need a supply of sucrose ?

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7. What are the parameters which control water potential ?

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8. If the concentration of salt in the soil is too high and the plants may wilt even if the field is thoroughly irrigated. Explain.

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9. How phoshorylase enzyme open the stomata in starch sugar interconversion theory ?

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10. An artificial cell made of selectively permeable membrane is immersed in a beaker (in the figure). Read the values and answer the following questions.

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11. During this period plants migrated from water to land.

A. Triassic period

B. Jurassic period

C. Cretaceous period

D. Ordovician period.

Answer:

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12. Process of moving water, minerals and food to all parts of the body is

A. Diffusion

B. Transport

C. Osmosis

D. Imbibition.

Answer:

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13. Transport within the network of xylem or phloem is

A. Long distance transport

B. Short distance transport

C. Active transport

D. Passive transport

Answer:

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14. Example of a short distance transport is

A. Ascent of sap

B. Osmosis

C. Translocation of solute

D. All the above

Answer:

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15. Down hill process which utilizes physical forces like gravity an concentration is

A. Active transport

B. Cell to cell transport

C. Passive transport

D. Long distance transport.

Answer:

Watch Video Solution

16. Biological process runs based on the energy obtained from respiraton is

A. Passive transport

B. Active transport

C. Long distance transport

D. Cell to cell transport.

Answer:

Watch Video Solution

17. Gaseous exchange of O_2 and CO_2 between the atmosphere and stomata of leaves the atmosphere and stomata of leaves takes place by

A. Diffusion

B. Osmosis

C. Fumigation

D. Transport

Answer:

Watch Video Solution

18. Which of the following is used in fumigation.

A. Potassium permaganate

B. Phosphine

C. Sulphur

D. Magnesium sulfate

Answer:

Watch Video Solution

19. Ascent of sap occurs due to

A. Diffusion

B. Capillary force

C. Root pressure

D. Transpirations pull and cohesion.

Answer:

Watch Video Solution

20. Solute potential is also known as

A. Water potential

B. Pressure potential

C. Osmotic potential

D. Matric potential.

Answer:

Watch Video Solution

21. Cellulosic cell wall is an example of

A. Permeable membrane

B. Semi permeable membrane

C. Impermeable membrane

D. None of the above.

Answer:

 Watch Video Solution

22. In _____, the biomembranes allow some solutes to pass in addition to the solvent molecules.

A. Permeable membrane

B. Semi permeable membrane

C. Selectively permeable membrane

D. Impermeable membrane

Answer:

Watch Video Solution

23. Membrane which inhibit the movement of bth solvent and solute molecules is

A. Impermeable membrane

B. Semipermeable membrane

C. Permeable membrane

D. All the above

Answer:

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24. Water channel protein is

A. Porin

B. Aquaporin

C. ROS

D. Glycerol

Answer:

Watch Video Solution

25. _____ is a large transporter protein found in outer membrane of plastids mitochondria etc.,

A. Porin

B. Aquaprin

C. ROS

D. Glycerol

Answer:

Watch Video Solution

26. Universal solvent is

A. Water

B. Alcohol

C. Oil

D. All liquids

Answer:

Watch Video Solution

27. Aquaporin is discovered by

A. Peter Agre

B. Went

C. Ringer

D. Wellenten

Answer:

Watch Video Solution

28. The concept of water potential was introduced by

A. Peter Agre

B. Slatyer and Taylor

C. Went

D. Wellesley

Answer:

Watch Video Solution

29. At standard temperature, the water potential of pure water is

A. One

B. Zero

C. Two

D. None of the above.

Answer:

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30. Matric potential is also known as

A. Imbibition pressure

B. Osmotic pressure

C. Turgor pressure

D. Solute

Answer:

Watch Video Solution

31. Pressure exerted exerted by the cell membrane towards the cell wall is

A. Osmotic pressure

B. Diffusion pressure

C. Suction pressure

D. Turgor pressure

Answer:

Watch Video Solution

32. DPD in normal cell is

A. DPD = OP - TP

B. DPD = TP

C. DPD = OP-SP

D. DPD = OP

Answer:

Watch Video Solution

33. DPD is termed by

A. Slatyer

B. Taylor

C. Meyer

D. Peter

Answer:

 Watch Video Solution

34. DPD in flaccid cell is

A. DPD=OP

B. DPD =TP

C. DPD = OP-TD

D. DPD=OP-TP

Answer:

 Watch Video Solution

35. DPD of a fully turgid cell is equal to

A. 0

B. 1

C. 2

D. 3

Answer:

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36. Which of the following process take place when a plant cell is kept ina hypertonic solution.

A. Exosmosis

B. Diffusion

C. Plasmolysis

D. Flaccid

Answer:

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37. Wilting of plants noticed under the condition of water scarcity is an indication of

A. Diffusion

B. Plasmolysis

C. Osmosis

D. Exosmosis

Answer:

Watch Video Solution

38. The phenomenon of the revival of the plasmolysed cell is called

A. Plasmolysis

B. Diffusion

C. Reverse osmosis

D. Deplasmolysis

Answer:

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39. Theory of osmotic active absorption was postulated by

A. Kramer

B. Rigner

C. Atkins and Priestley

D. None of the above.

Answer:

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40. Theory of non-osmotic active absoprtion was postulated by

A. Bennet-Clark

B. Thimann

C. Krammer

D. All the three

Answer:

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41. The water within the xylem along with dissovled minerals from roots is called

A. Sap

B. Solution

C. Solvent

D. Eosin

Answer:

Watch Video Solution

42. Who invented Crescograph?

A. Bennet

B. Kramer

C. Stephen

D. J.C. Bose

Answer:

Watch Video Solution

43. Who proved that living cells are not mandatory for ascent of sap

A. Strasburger

B. Overton

C. Both (a) and (b)

D. None of the above.

Answer:

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44. Relay pump theory of Godlewski was proved in the year

A. 1884

B. 1984

C. 1994

D. 1934

Answer:

Watch Video Solution

45. Who coined the term root pressure

A. Strasburger

B. J.C. Bose

C. Overton

D. Stepehn Hales

Answer:

Watch Video Solution

46. Who defined root pressure as “a pressure developing in the tracheary elements of xylem as a result of metabolic activities of the root”

A. Stoking (1956)

B. J.C. Bose (1923).

C. Godlewski (1884)

D. Strasburger (1889)

Answer:

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47. Ascent of sap continues even in the

A. Presence of root

B. Absence of roots

C. Presence of leaves

D. Absence of leaves

Answer:

48. Who suggested that the xylem vessels work like a capillary tube

A. Unger (1878)

B. Sachs (1876)

C. Boehm (1809)

D. Jolly (1894)

Answer:

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49. Boehm proposed a theory known as

A. Capillary theory

B. Imbibition theory

C. Cohesion tension theory

D. Physical force theory

Answer:

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50. Cohesion-tension theory was proposed by

A. Boelm

B. Dixon and Unger

C. Dixon and Jolly

D. Sachs

Answer:

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51. Loss of excess of water in the form of vaporu from various aerial parts of the plant is called

A. Osmosis

B. Respiration

C. Expiration

D. Transpirations

Answer:

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52. Fatty substance covering the epidermis of leaves and other plant parts is

A. Lenticels

B. Cuticle

C. Cutin

D. Xylem

Answer:

Watch Video Solution

53. Lens shaped raised spots present on the surface of the stem are called

A. Cuticle

B. Lenticels

C. xylem

D. Phloem

Answer:

54. The epidermis os leaves and green stems possess small pores called

A. Stomata

B. Guard cells

C. Subsidiary cells

D. Acessory cells

Answer:

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55. Epidermal cells attached to guard cells are

A. Subsidiary cells

B. Accessory cells

C. Substomatal cells

D. Both (a) and (b)

Answer:

Watch Video Solution

56. Subsidiayr cells are also known as

A. Accesory cells

B. Substomatal cells

C. Stomatal cells

D. Guard cells

Answer:

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57. Who observed that stomata open in light and close in night?

A. Von Mohl

B. Sayre

C. Lloyd

D. Loftfield

Answer:

Watch Video Solution

58. Who observed that the opening and closing of stomata depends upon change in pH of guard cells.

A. Lloyd

B. Loftfiled

C. Sayre

D. Levitt

Answer:

Watch Video Solution

59. Starch-sugar inter conversion theory was supported by

A. Sayre

B. Loftfiled

C. Mohl

D. Kingsley

Answer:

Watch Video Solution

60. Enzyme phosphroylase in guard cells was discovered by

A. Sayre

B. Loftfiled

C. Hanes

D. Yin and Tung

Answer:

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61. Theory of K^+ transport was proposed by

A. Steward (1964)

B. Levitt (1974)

C. Hanes (1940)

D. Rashchke (1994)

Answer:

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62. Which one is stress hormone

A. Abscisic acid

B. Gibberellin

C. Auxin

D. Cytokinin

Answer:

Watch Video Solution

63. Accumulation of CO_2 in cell lowers the _____ level

A. K^+

B. pH

C. Cl^-

D. H^+

Answer:

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64. Example of phyllode

A. Hydrilla

B. Asparagus

C. Acacia melanoxylon

D. Opuntia

Answer:

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65. _____ is a modified stem capable of limited growth

A. Cladode

B. Phylloclade

C. Phyllode

D. Staminode

Answer:

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66. ___ term is used to designate any material applied to plants for retarding transpiration.

A. Physical barrier

B. Anti-transpirant

C. Stomata closure

D. PMA

Answer:

Watch Video Solution

67. Natural anti-trnaspirant is

A. K^+

B. CO_2

C. O_2

D. ABA

Answer:

Watch Video Solution

68. _____ induces stomatal closure

A. CO_2

B. O_2

C. K^+

D. H^+

Answer:

Watch Video Solution

69. _____ foliar spray induces partial stomatal closure.

A. Phenyl Mercuric Acetate

B. CO_2

C. O_2

D. Auxin

Answer:

Watch Video Solution

70. _____ highly induces the closing of stomata.

A. ABA

B. O_2

C. CO_2

D. PMA

Answer:

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71. Excess water exudats as liquid from the edges of the leaves is called

A. Guttation

B. Transpiration

C. Evaporation

D. Translocation.

Answer:

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72. Apparatus used to measure the rate of trnaspiration is

A. Crescograph

B. Ganong's potometer

C. Respirometer

D. Auxanometer

Answer:

Watch Video Solution

73. Guttation occurs through

A. Hydathodes

B. Epthem

C. Stomata

D. Phylloclade

Answer:

Watch Video Solution

74. In hydathode, cells are arranged with large intercellular spaces called

A. Phylloclade barrier

B. Anti-transpirant

C. Stomata closure

D. Epithem

Answer:

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75. "Transpiration" is a necessary evil as stated by

A. Went

B. Curtis

C. Bayler

D. Stuart

Answer:

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76. Leaves synthesize food material through

A. Chlorophyll

B. Starch

C. Photosynthesis

D. Water

Answer:

 Watch Video Solution

77. Leaves store food material in the form of

A. Chlorophyll

B. Water

C. Sugar

D. Starch

Answer:

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78. Experiment demonstrating translocation of solute by phloem is

A. Cobalt chloride

B. Ringing experiment

C. Potometer

D. Munch mass hypothesis

Answer:

Watch Video Solution

79. Phenomenon of food transportation from the site of synthesis to the site of utilization is

A. Translocation of organic solute

B. Transpiration

C. Osmosis

D. Diffusion

Answer:

Watch Video Solution

80. In plants it receives food from source

A. Sink

B. Source

C. Phloem

D. Xylem

Answer:

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81. Which of the following is simple monosaccharide

A. Glucose

B. Fructose

C. Sucrose

D. Both (a) and (b)

Answer:

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82. Movement of photosynthates from mesophyll cells to phloem sieve elements of mature leaves leaves is known as

A. Phloem loading

B. Source

C. Sink

D. Sieve transport

Answer:

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83. From sieve elements, sucrose is translocated into sink organs. This process is termed as

A. Phloem loading

B. Phloem unloading

C. Active transport

D. Imbibition.

Answer:

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84. Which theroy states the translocation of food form higher concentration to lower concentration by simple physiclal process

A. Diffusion hypothesis

B. Electro-Osmotic theory

C. Activated diffusion theory

D. Munch mass flows hypothesis

Answer:

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85. Electro-Osmotic theory was proposed by

A. Maskell

B. Fenson and Spaner

C. Crafts Munch

D. Werner

Answer:

 Watch Video Solution

86. According to this theory, an electric potential across the sieve plate causes the movement of water along with solutes

A. Diffusion hypothesis

B. Electro-Osmotic theory

C. Activated diffusion theory

D. Munch Mass theory

Answer:

Watch Video Solution

87. Theory proposed by Mason and Maskell in 1936 is

A. Diffusion hypothesis

B. Electro-Osmotic theory

C. Activated diffusion theory

D. Munch mass flows hypothesis

Answer:

 Watch Video Solution

88. Mass flow hypothesis was first proposed by

A. Munch

B. Maskell

C. Fenson

D. Spanner

Answer:

89. Movement of ions into and out of cells or tissues is termed as

A. Efflux

B. Influx

C. Flux

D. None of the above.

Answer:

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90. Which theory states the ions adsorbed on the surface of root cells and clayparticles are not held tightly but oscillate within a small volume of space.

A. Ion exchange theory

B. Contact exchange theory

C. Carbonic acid exchange theory

D. Bennet-Clark's protein theory

Answer:

91. According to this theory, soil solution plays an important role by acting as a medium for ion exchange

A. Ion exchange theory

B. Contact exchange theory

C. Carbonic acid exchange theory

D. Bennet-Clark's protein theory

Answer:

 Watch Video Solution

92. Absorption of ions against the concentration gradient with the expenditure of metabolic energy is called

A. Active absorption

B. Passive absorption

C. Anion respiration

D. Salt respiration

Answer:

Watch Video Solution

93. Carrier concept was proposed by

A. Ludnegardh

B. Burstrom

C. Van den Honert

D. Brunner

Answer:

Watch Video Solution

94. Carrier molecules act as

A. An enzyme

B. A vehicle

C. A hormone

D. A membrane

Answer:

Watch Video Solution

95. Cytochrome pump theory was proposed by

A. Lundegardh

B. Van den Honest

C. Bennet-Clark

D. Burstrom

Answer:

Watch Video Solution

96. Whe a plant is transferred form water to a salt solution, the rate of respiration increases is called

A. Anion respiration

B. Active respiration

C. Passive respiration

D. Ionic respiration

Answer:

Watch Video Solution

97. Who observed a correlation between respiration and anion absorption?

A. Van den Honert

B. Lundergardh and Burstrom

C. Bennet and Clark

D. Fenson

Answer:

Watch Video Solution

98. According to this thoery, the enzyme dehydrogenase on inner surface is responsible

for the formation of protons $\left(H^{+}\right)$ and electrons $\left(e^{-}\right)$

A. Cytochrome pump theory

B. Contact exchange theory

C. Carbonic acid exchange theory

D. Munch flow hypothesis theory

Answer:

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99. Bennet-Clark's protein-lecithin theory was proposed in

A. 1966

B. 1956

C. 1976

D. 1986

Answer:

Watch Video Solution

100. Protein-Lecithin theory was proposed by

A. Bennet-Clark

B. Van den Honest

C. Lundegardh

D. Munch

Answer:

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101. Equillibrium controlled by electrical as well as diffusion phenomenon is

A. Protein-Lecithin theory

B. Donnan equilibrium

C. Active adsorption

D. Passive adsorption

Answer:

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102. Protein associated with phosphatide is

A. Acid

B. Base

C. Lecithin

D. Choline

Answer:

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103. _____ is required for regeneration of lecithin

A. Acid

B. Base

C. Choline

D. ATP

Answer:

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104. In which plant the petioles are flattened and widened to become phyllode.

A. Delonix regia

B. Acacia melanoxylon

C. Asparagus

D. Vinca rosea

Answer:

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105. Choose the correct statement

A. Anti-transpirants reduce the enormous loss of water by transpiration in crop plants

B. Anti-transpirants do not alter the rate of transpiration

C. Anti-transpirants increase the loss of water by transpiration

D. Anti-transpirants reduce the loss of water by respiration in crop plants.

Answer:

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106. Which is not the objection raised against root pressure theory

A. Root pressure is totally absent in gymnsosperms.

B. There is not relationship between the ascent of sap and root pressure

C. Living cells are not madatory for the ascent of sap

D. Ascent of sap continus even in absence of roots

Answer:

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107. State the wrong statement based on cohesion tension theory

A. Strong cohesive force or tensile strength of water

B. Continuity of the water column in the plant

C. Transpiration pull or tension in the unbroken water column

D. Induction of stomata closure

Answer:

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108. Over 30 types of Acquaporins are recognised in

A. Rice

B. Wheat

C. Maize

D. Oats

Answer:

Watch Video Solution

109. Ascent of sap is

A. Upward movement of water in plants

B. Downward movement of water in plants

C. Both (a) and (b)

D. None of the above.

Answer:

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110. The term _____ denotes food material that moves in a solution

A. Photosynthesis

B. Translocation

C. Solute

D. Gridled area

Answer:

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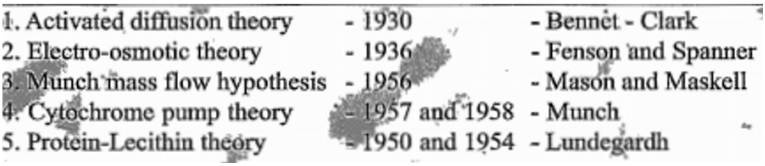
111. Match the following



1. Activated diffusion theory	- 1930	- Bennet - Clark
2. Electro-osmotic theory	- 1936	- Fenson and Spanner
3. Munch mass flow hypothesis	- 1956	- Mason and Maskell
4. Cytochrome pump theory	- 1957 and 1958	- Munch
5. Protein-Lecithin theory	- 1950 and 1954	- Lundegardh

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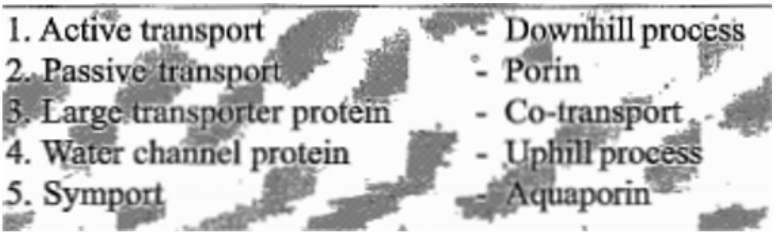
112. Match the following



1. Active transport	- Downhill process
2. Passive transport	- Porin
3. Large transporter protein	- Co-transport
4. Water channel protein	- Uphill process
5. Symport	- Aquaporin

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113. Match the following

1. Opuntia	-Phyllodes
2. Asparagus	-Phylloclade
3. Alocasia	-Cladode
4. Acacia	-Guttation

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114. Stomata of a plant open due to

A. Influx of K^+

B. Efflux of K^+

C. Influx of Cl^-

D. Influx of OH^-

Answer:

Watch Video Solution

115. Munch hypothesis is based on

A. Translocation of food due to TP gradient and imbibition force

B. Translocation of food due to TP

C. Translocation of food due to imbibition force

D. None of the above

Answer:

Watch Video Solution

116. Ascent of sap occurs due to

A. Diffusion

B. Capillary force

C. Root pressure

D. Transpiration pull and cohesion

Answer:

Watch Video Solution

117. DPD in flaccid cell is

A. DPD=OP

B. DPD=TP

C. DPD=OP-TD

D. DPD=OP-TP

Answer:

Watch Video Solution

118. What type of transpiration is possible in the xerophyte Opuntia ?

A. Stomatal

B. Lenticular

C. Cuticular

D. All the above

Answer:

Watch Video Solution

119. What are the parameters which control water potential ?

Watch Video Solution

120. List out the non- photosynthetic parts of a plant that need a supply of sucrose ?

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121. Define diffusioni pressure deficit.

Watch Video Solution

122. Name the theories related with stomatal movement.

Watch Video Solution

123. What is Donnan equilibrium.

Watch Video Solution

124. What is oscillation volume.

Watch Video Solution

125. If the concentration of salt in the soil is too high and the plants may wilt even if the field is thoroughly irrigated. Explain.

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126. How phoshorylase enzyme open the stomata in starch sugar interconversion theory ?

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127. What are the steps involved in phloem loading?

Phloem Loading :

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128. Write down the significance of diffusion in plants.

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129. What causes excess loss of water through transpiration? Explain their types.

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130. Define ion-exchange and explain the theories with neat diagram.

Watch Video Solution

131. Tabulate the difference between active absoprtion and passive absorption.

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132. Define sap exudation.

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Example

1. Define transport

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2. Classify the transport based on energy expenditure

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3. Define diffusion

 Watch Video Solution

4. What are the types of membrane permeability?

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5. What are the transporting polar molecules?

Watch Video Solution

6. Name the two types of transport proteins present in the cell membrane.

Watch Video Solution

7. Name the three types of carrier proteins.

Watch Video Solution

8. What is porin?

Watch Video Solution

9. What are aquaporin ?

Watch Video Solution

10. What is imbibition ?

Watch Video Solution

11. Define water potential

Watch Video Solution

12. Define osmotic potential

Watch Video Solution

13. What is osmotic pressure?

Watch Video Solution

14. Define diffusioni pressure deficit.

Watch Video Solution

15. What is osmosis?

Watch Video Solution

16. Write the types of solution based on concentratoin.

Watch Video Solution

17. Name the three types of plasmolysis

Watch Video Solution

18. Define endosmosis

Watch Video Solution

19. Define exosmosis

Watch Video Solution

20. Write the significance of plasmolysis.

Watch Video Solution

21. What is hypertonic solution?

Watch Video Solution

22. What is hypotonic solution?

Watch Video Solution

23. What are isotonic solutions?

Watch Video Solution

24. What is pressure potential (Ψ_P)?

Watch Video Solution

25. What is Matric potential (Ψ_M)?

Watch Video Solution

26. What is suction pressure?

Watch Video Solution

27. Write the two uses of revere osmosis.

Watch Video Solution

28. Write the two step involved in absoprtion of water by plants.

Watch Video Solution

29. Name the possible routes for the path of water across root cells.

Watch Video Solution

30. What are the two types of active absorption?

Watch Video Solution

31. Define active absorption.

Watch Video Solution

32. Write the objections to osmotic theory.

Watch Video Solution

33. Define ascent of sap.

Watch Video Solution

34. Name the theories which explain the mechanism of ascent of sap.

Watch Video Solution

35. Define sap exudation.

Watch Video Solution

36. What is adhesion?

Watch Video Solution

37. Define:-

Embolism

Watch Video Solution

38. Define transpiration and explain its types.

Watch Video Solution

39. What are the types of transpiration?

Watch Video Solution

40. Define epithem.

Watch Video Solution

41. What is influx and efflux?

Watch Video Solution

42. What is anion respiration?

Watch Video Solution

43. Define lenticels.

Watch Video Solution

44. What are stomata?

Watch Video Solution

45. What are accesory cells?

Watch Video Solution

46. Name the theories related with stomatal movement.

Watch Video Solution

47. Write a note on the theory of photosynthesis in guard cells.

Watch Video Solution

48. What are the external factors affecting transpiration?

Watch Video Solution

49. What are the internal factor affecting transpiration?

Watch Video Solution

50. Write the two types of antitranspriants.

Watch Video Solution

51. What is guttation? Give an example.

Watch Video Solution

52. What are hydathodes?

Watch Video Solution

53. Define translocation of organic solutes.

Watch Video Solution

54. Define source.

Watch Video Solution

55. Define sink.

Watch Video Solution

56. Define phloem loading.

Watch Video Solution

57. Describe activated diffusion theory.

Watch Video Solution

58. The electro -osmotic theory explains _____.

Watch Video Solution

59. State Munch mass flow hypothesis. Demonstrate the principle with neat diagram.

Watch Video Solution

60. Define mineral absorption.

Watch Video Solution

61. Define flux.

Watch Video Solution

62. Name the two theories explaining the process of ion exchange.

Watch Video Solution

63. What is oscillation volume.

Watch Video Solution

64. Define active absorption.

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65. Name the theroies which explaining carrier cocnept.

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66. What is Donnan equilibrium.

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67. Write a note on cell to cell transport.

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68. What is the need for transport?

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69. Write the characteristics of diffusion.

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70. What is fumigation?

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71. How phoshorylase enzyme open the stomata in starch sugar interconversion theory ?

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72. Write down the significance of diffusion in plants.

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73. Write a note on channel protein with examples.

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74. Write a note on carrier protein.

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75. Give the difference between symport and antiport.

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76. Classify various types of cell to cell transport.

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77. Write down the significance of imbibition.

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78. Explain the role of water in plants.

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79. Briefly explain solute potential (Ψ_s)

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80. Explain turgor pressure.

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81. Briefly explain deplasmolysis.

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82. What is reverse osmosis?

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83. Write notes on root hairs.

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84. What are the objections to root pressure being a force for Ascent of Sap.

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85. Write the objections related to starch-sugar interconversion theory?

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86. Define wilting. Write the types.

Watch Video Solution

87. Define the term anti-transpirant.

Watch Video Solution

88. Draw the structure of hydathode

Watch Video Solution

89. Write the two types of antitranspriants.

Watch Video Solution

90. What are the significance of transpiration.

Watch Video Solution

91. Define pholem unloading. What are the steps involved in it?

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92. What are the steps involved in phloem loading?

Phloem Loading :

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93. State the Munch Mass flow hypothesis.

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94. Write down the objections related to Munch mass flow hypothesis.

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95. Why plants transport sugars as sucrose and not as starch or glucose or fructose?

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96. Write the assumptions of carrier concepts based on cytochrome pump theory.

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97. What causes excess loss of water through transpiration? Explain their types.

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98. Write a note on Cobalt chloride paper method.

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99. State Murray's law. Where is it observed?

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100. Write a note on imbibition theory.

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101. Write a note on the theory of photosynthesis in guard cells.

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102. Demosntrate osmosis by thistle funel experiment.

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103. List the hypothesis proposed to explain the mechanism of trnaslocation.

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104. Explain diffusion hypothesis theory

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105. Describe activated diffusion theory.

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106. The electro -osmotic theory explains _____.

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107. Write a note on solute potneital.

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108. Write a note on pressure potential.

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109. What are the types of membrane permeability?

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110. Define transpiration and explain its types.

Watch Video Solution

111. Explain the structure of stomata with a neat diagram.

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112. State the Munch Mass flow hypothesis.

Watch Video Solution

113. Explain the factors affecting the rate of transpiration.

Watch Video Solution

114. Define ion-exchange and explain the theories with neat diagram.

Watch Video Solution

115. Explain two theories related to carrier concept.

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116. Explain osmosis with the demonstration of potato osmoscope.

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117. Explain the measurement of transpiration using Ganong's potometer.

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118. Explain the path of water across root cells through different routes.

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119. The theory of K^+ transport to explain stomatal opening was proposed by _____ .

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120. Define translocation of organic solute and demonstrate an experiment using translocation of solute by phloem.

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121. Define ascent of sap and prove with and experiment that xylem is the only element through which water moves up.

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122. State Munch mass flow hypothesis. Demonstrate the principle with neat diagram.

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123. Tabulate the difference between active absoprtion and passive absorption.

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124. Define transport

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125. Define 'Diffusion '.

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126. What is porin?

Watch Video Solution

127. What are aquaporin ?

Watch Video Solution

128. What is imbibition ?

Watch Video Solution

129. Define water potential

Watch Video Solution

130. Define osmotic potential

Watch Video Solution

131. What is osmotic pressure?

Watch Video Solution

132. Define diffusioni pressure deficit.

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133. What is osmosis?

Watch Video Solution

134. Define endosmosis

Watch Video Solution

135. Define exosmosis

Watch Video Solution

136. What are isotonic solutions?

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137. What is pressure potential (Ψ_P)?

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138. What is Matric potential (Ψ_M)?

Watch Video Solution

139. What is suction pressure?

Watch Video Solution

140. What is active absorption?

Watch Video Solution

141. Define ascent of sap.

Watch Video Solution

142. Define sap exudation.

Watch Video Solution

143. What is adhesion?

Watch Video Solution

144. Define endemism.

Watch Video Solution

145. Define transpiration and explain its types.

Watch Video Solution

146. Define epithem.

Watch Video Solution

147. What is influx and efflux?

Watch Video Solution

148. What is influx and efflux?

Watch Video Solution

149. What is anion respiration?

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150. Define lenticels.

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151. What are stomata?

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152. What are accesory cells?

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153. What is guttation? Give an example.

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154. What are hydathodes?

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155. Define translocation of organic solutes.

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156. Define source.

Watch Video Solution

157. Define sink.

Watch Video Solution

158. Define phloem loading.

Watch Video Solution

159. Define mineral absorption.

Watch Video Solution

160. Define flux.

Watch Video Solution

161. What is oscillation volume.

Watch Video Solution

162. Define active absorption.

Watch Video Solution

163. What is Donnan equilibrium.

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169. State the contact exchange theory.

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171. Tabulate the difference between active absoprtion and passive absorption.

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