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Chapter – 06

Plant Physiology and Nutrition

1. Which among the following elements increases the absorption of water and calcium in plants?

- (A) Manganese (B) Boron
(C) Copper (D) Molybdenum

2. Which wood will become useless soon after exposing in the open air?

- (A) Softwood (B) Fibrous wood
(C) Wet wood (D) Hard wood

3. Onion is a modified form of

- (A) Leaf (B) Stem
(C) Root (D) None of these

4. Fruits of this plant are found underground :

- (A) Potato (B) Carrot
(C) Groundnut (D) Onion

5. All the progeny obtained from a single plant by vegetative propagation are called-

- (A) Clones (B) Pure line
(C) Inbreed line (D) Pedigree line

6. Water in plants is transported by

- (A) Cambium (B) Phloem
(C) Epidermis (D) Xylem

7. Rod shaped bacteria is called

- (A) Bacillus (B) Spirillum
(C) Coccus (D) Coma

8. Which of the following is not required for seed germination?

- (A) Water (B) Air
(C) Sunlight (D) Suitable temperature

9. Which of the following food crops has the maximum content of proteins ?

- (A) Cassava (B) Soyabean
(C) Wheat (D) Maize

10. The source of oxygen generated during photosynthesis is :

- (A) Water (B) Carbon dioxide
(C) Chlorophyll (D) Mesophyll cells

11. Carbohydrate is stored in the body as

- (A) Glucose (B) Starch
(C) Glycogen (D) Sucrose

12. Which components of light are absorbed by chlorophyll ?

- (A) Violet and red (B) Indigo and orange
(C) Blue and red (D) Violet and yellow

13. During photosynthesis green plants absorb

- (A) Nitrogen (B) Carbon dioxide
(C) Carbon monoxide (D) Oxygen

14. Quarantine regulation is concerned with-

- (A) Growing of better varieties of plant
(B) Prevention of entry of diseased organism
(C) Spraying of insecticide over diseased plants
(D) Identification of diseased organism

15. Ripe grapes contain

- (A) Fructose (B) Sucrose
(C) Galactose (D) Glucose

16. The enzyme in whose presence glucose and fructose are converted into alcohol is

- (A) Diastase (B) Maltase
(C) Invertase (D) Zymase

17. The element which is rich in most leafy vegetables is

- (A) Phosphorous (B) Zinc
(C) Iron (D) Calcium

18. Plants get water through the roots because of

- (A) Elasticity (B) Capillarity
(C) Viscosity (D) Photosynthesis

19. A plant with fibrous root system is :

- (A) Wheat (B) Pea
(C) Mustard (D) Bean

20. The part of the flower that can carry out photosynthesis is

- (A) Androecium (B) Gynoecium





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(C) Calyx

(D) Corolla

21. Pulses are a good source of

(A) Carbohydrates

(B) Vitamins

(C) Proteins

(D) Fats

22. The form of carbohydrate which is synthesised in plants is

(A) Starch

(B) Glucose

(C) Fructose

(D) Cellulose

23. The reagent used to test the presence of starch in leaves is

(A) Fehling's solution

(B) Iodine solution

(C) Million's reagent

(D) Benedict's solution

24. The gas released during photosynthesis :

(A) Carbon dioxide

(B) Oxygen

(C) Carbon monoxide

(D) Sulphur dioxide

25. Carrot is a rich source of vitamin

(A) A

(B) C

(C) D

(D) E

26. Plants release energy during

(A) Photosynthesis

(B) Respiration

(C) Transpiration

(D) Germination

27. Which of these is a micronutrient for plants?

(A) Carbon

(B) Oxygen

(C) Nitrogen

(D) Boron

28. Root nodules are commonly found in-

(A) Parasitic plants

(B) Epiphytic plants

(C) Leguminous plants

(D) Aquatic plants

29. Which of the following metals is present in chlorophyll?

(A) Beryllium

(B) Magnesium

(C) Calcium

(D) Barium

30. Cuscuta is a

(A) Partial stem parasite

(B) Complete stem parasite

(C) Partial root parasite

(D) Complete root parasite

31. A potato tuber has been cut into two halves. A few drops of iodine solution are placed on the cut surface of one of the halves. What colour change will be noticed?

(A) From brown to blue-black

(B) From brown to orange-red

(C) From blue to pink

(D) From pink to blue-green

32. Dormancy period of animals during winter season is called-

(A) Aestivation

(B) Hibernation

(C) Regeneration

(D) Mutation

33. Yellow spots on citrus leaves is due to the deficiency of-

(A) Zinc

(B) Magnesium

(C) Boron

(D) Iron

34. A seed can germinate in the absence of

(A) Adequate light

(B) Supply of oxygen

(C) Suitable moisture

(D) Suitable temperature

35. Excess amount of absorbed water by plants is liberated out by

(A) Evaporation

(B) Osmosis

(C) Diffusion

(D) Transpiration

36. The red, orange and yellow colours of leaf is due to

(A) Aldehydes

(B) Tannis

(C) Lignins

(D) Carotenoid

37. Which of the following is not an insectivorous plant?

(A) Nepenthes

(B) Utricularia

(C) Drosera

(D) Cuscuta

38. Which of the following is an insectivorous plant?

(A) Balanophora

(B) Rafflesia

(C) Orobanche

(D) Drosera

39. Seed dormancy is regulate by

(A) Absciscic acid

(B) Gibberellic acid

(C) Indole acetic acid

(D) Ethylene

40. In plant-water relationship, symbol 'y' w is used to represent

(A) Osmotic pressure

(B) Water potential

(C) Solute potential

(D) Osmosis





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41. Membrane lipids of chill sensitive plants contain
(A) Low proportion of saturated fatty acids
(B) Low proportion of unsaturated fatty acids
(C) Equal proportion of saturated and unsaturated fatty acids
(D) High proportion of unsaturated fatty acids.

42. The curcumin is isolated from
(A) Garlic (B) Turmeric
(C) Sunflower (D) Rose flower

43. Which of the following plant pigments absorbs in red and far-red region of light?
(A) Carotenoid (B) Chlorophyll
(C) Phytochrome (D) Cryptochrome

44. The process through which excess of light energy is dissipated in photosynthesis is known as-
(A) Quenching (B) Scavenging
(C) Photolysis (D) Photophosphorylation

45. Wilting of plants occurs due to excessive
(A) Respiration (B) Guttation
(C) Absorption (D) Transpiration

46. Which of the following three R's are regarded as environment friendly?
(A) Reduce, Rebuild, Restrict
(B) Random, Reduce, Recall
(C) Read, Register, Recall
(D) Reduce, Reuse, Recycle

47. Chlorophyll containing autotrophic thallophytes is called as
(A) Algae (B) Lichens
(C) Fungi (D) Bryophytes

48. 'Table sugar' is which type of sugar?
(A) Fructose (B) Galactose
(C) Glucose (D) Sucrose

49. Chlorophyll contains
(A) Iron (B) Magnesium
(C) Cobalt (D) Zinc

50. Hydroponics is a method of culture of plants without using
(A) Water (B) Light

- (C) Sand (D) Soil

51. Self pollination will lead to
(A) Inbreeding (B) Rare breeding
(C) Over breeding (D) Out breeding

52. Flowers emit fragrance to:
(A) Purify air (B) Drive away flies
(C) Attract insects (D) Perform all the above

53. Which of the following is not a stem modification?
(A) Bulb of Onion (B) Corm of Arvi
(C) Tuber of Sweet-potato (D) Tuber of Potato

54. The type of fruit obtained from a multicarpellary apocarpous gynoecium is
(A) Composite (B) Aggregate
(C) Simple (D) Multiple

55. The plants which grow under water stress conditions of deserts are
(A) Epiphytes (B) Xerophytes
(C) Heliophytes (D) Sciophytes

56. Where does the cabbage store food?
(A) Leaves (B) Stem
(C) Fruit (D) Scurvy

57. The first stable product of photosynthesis is
(A) Starch (B) Sucrose
(C) Phosphoglyceric acid (D) Glucose

58. The plants which grow well, only in light are known as
(A) Sciophilous (B) Xerophytes
(C) Heliophytes (D) Epiphytes

59. Phototropic movement is controlled by
(A) Auxin (B) Gibberellin
(C) Cytokinin (D) Ethylene

60. When we touch leaves of "Touch me not plant" they close these movements are called
(A) Photonastic movements
(B) Nyctinastic movements
(C) Seismonastic movements
(D) Chemonastic movements





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61. Cell becomes turgid because of

- (A) Plasmolysis (B) Fish
(C) Endosmosis (D) Diffusion

62. The process of imbibition involves

- (A) Diffusion (B) Capillary action
(C) Absorption (D) Both 1 and 2

63. A cell increases in volume when it is placed in

- (A) Hypertonic solution
(B) Hypotonic solution
(C) Isotonic solution
(D) None of these

64. Translocaton of water is

- (A) Apoplastic (B) Symplastic
(C) Both 1 and 2 (D) None of the above

65. The kidney shaped guard cells are present in

- (A) Dicot plants (B) Monocot plants
(C) Both the above (D) Algae

66. Dumb-bell shaped guard cells are present in

- (A) Groundnut (B) Gram
(C) Wheat (D) Mango

67. Stomatal opening is based on

- (A) Exosmosis
(B) Endosmosis
(C) Plasmolysis in guard cells
(D) Decrease in concentration of cell sap

68. 2, 4-D is used as

- (A) Weedicide (B) Vitamin
(C) Fertilizer (D) Insecticide

69. Movement of hairs in Drosera is referred to as-

- (A) Heliotropism (B) Thigmotropism
(C) Photonastic (D) Sesismonastic

70. Transpiration through leaves is called as

- (A) Cauline transpiration
(B) Foliar transpiration
(C) Cuticular transpiration
(D) Lenticular transpiration

71. Process through which plants reproduce

- (A) Pollination (B) Condensation

(C) Eating

(D) Evaporation

72. Water of coconut is-

- (A) Liquid nucellus
(B) Liquid mesocarp
(C) Liquid endocarp
(D) Degenerated liquid endosperm

73. Root hairs arise from-

- (A) Cortex (B) Pericycle
(C) Epidermis (D) Endodermis

74. A Parenchyma cell which stores ergastic substance is known as-

- (A) Phragmoplast (B) Idioblast
(C) Conidioplast (D) Chloroplast

75. In cactus, the spines are the modified

- (A) Stem (B) Stipulse
(C) Leaves (D) Buds

76. Which fruit has its seed out side?

- (A) Strawberry (B) Banana
(C) Groundnut (D) Cashew nut

77. Which one of the following is not a photosynthetic pigment?

- (A) Chlorophyll (B) Phycobilin
(C) Carotenoid (D) Anthocyanin

78. The cells which are closely associated and interacting with guard cells are

- (A) Transfusion tissue (B) Complementary cells
(C) Subsidiary cells (D) Hypodermal cells

79. Conversion of starch to sugar is essential for

- (A) Stomatal opening (B) Stomatal closing
(C) Stomatal formation (D) Stomatal growth

80. The main function of palisade parenchyma in leaf is

- (A) Antibiotics (B) Pollutants
(C) Hormones (D) Toxins

81. Red rot of sugarcane is caused by-

- (A) Alternaria alternata
(B) Phylophthora infestants
(C) Colletotrichum falcatum
(D) Cercospora personata





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82. The maximum fixation of solar energy is done by-

- (A) Protozoa (B) Bacteria
(C) Fungi (D) Green Plants

83. Molybdenum deficiency affects the activity of

- (A) All of the given options
(B) Chlorate reductase
(C) Nitrogenase
(D) Nitrate reductase

84. Which of the following plant shows chloroplast dimorphism?

- (A) Sugar beet (B) Rice
(C) Wheat (D) Sugarcane

85. Azolla increases soil fertility for

- (A) Maize cultivation (B) Wheat cultivation
(C) Barley cultivation (D) Rice cultivation

86. Which of the following is responsible for transport of food and other substances in plants?

- (A) Xylem (B) Phloem
(C) Chloroplast (D) None of these

87. The substrate of photorespiration is

- (A) Fructose (B) Pyruvic acid
(C) Glycolate (D) Glucose

88. Which of the following bacterium causes crown gall disease in plants?

- (A) Bacillus thuringiensis
(B) Agrobacterium tumefaciens
(C) Pseudomonas fluorescens
(D) None of these

89. The elements known as primary nutrients for plants

- (A) Nitrogen, Phosphorus and Potassium
(B) Nitrogen, Oxygen and Silicon
(C) Potassium, Boron and Nitrogen
(D) Nitrogen, Phosphorus and Iron

90. Which light is least effective in photosynthesis?

- (A) Blue light (B) Green light
(C) Red light (D) Sunlight

91. Which of the following plays an important role in photosynthesis-

- (A) Chloroplast (B) Centrosome
(C) Tonoplast (D) Nematoblast

92. ____ is a multibranched polysaccharide of glucose that serves as a form of energy storage in animals and fungi.

- (A) Cellulose (B) Glycogen
(C) Pectin (D) Chitin

93. The source of oxygen in atmosphere is due to

- (A) Photosynthesis (B) Excretion
(C) Nitrogen fixation (D) Respiration

94. 'Insectivorous plant' trap insects for

- (A) Nitrogen (B) Fats
(C) Vitamins (D) Carbohydrates

95. Microbial degradation of nitrates into atmospheric nitrogen is known as:

- (A) Ammonification (B) Nitrification
(C) Denitrification (D) Putrefaction

96. Damping off of seedlings is caused by

- (A) Peronospora parasitica
(B) Albugo Candida
(C) Phytophthora infestans
(D) Pythium debaryanum

97. Transpiration increases in:

- (A) Hot, dry and windy condition
(B) Hot, damp and windy condition
(C) Cool, damp and windy condition
(D) Cool, dry and still condition

98. If xylem and phloem are arranged in the same radius, such a vascular bundle is called"

- (A) Collateral (B) Bicollateral
(C) Concentric (D) Radial

99. Commercially valued cork is obtained from:

- (A) Quercus spp (B) Cedrus Deodara
(C) Ficus (D) Cycas

100. Intensive cultivation refers to

- (A) Production with intensive use of labour
(B) Production with intensive use of fertilizer
(C) Raising production by intensive use of existing land
(D) Raising production by large scale use of imported inputs





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101. Which of the following statements about phloem transport is correct?

- (A) Phloem transport occurs unidirectionally
- (B) Gravity influences phloem transport
- (C) Ca^{+} is the most abundant cation
- (D) Sugar is transported in phloem as non-reducing sugar

102. Which of the following plant hormones are incorrectly paired?

- (A) Abscissic acid-transpiration
- (B) Auxins-apical dominance
- (C) Cytokinins-senescence
- (D) Gibberellins-bud and seed dormancy

103. Inhibition of photosynthesis in the high presence of O_2 in C_3 plants is called:

- (A) Hexose monophosphate
- (B) Pasteur effect
- (C) Decker effect
- (D) Warburg effect

104. Plants which can survive in very less water are called as ____.

- (A) Halophytes
- (B) Xerophytes
- (C) Heliophytes
- (D) Saprophytes

105. Guard cells surrounds ____.

- (A) Nucleus
- (B) Stomata
- (C) Golgi apparatus
- (D) Mitochondria

106. In a majority of flowering plants, out of the four megaspores, what is the ratio of functional and degenerate megaspores?

- (A) 2 : 2
- (B) 1 : 3
- (C) 3 : 1
- (D) 4 : 0

107. Opposite the micropylar end, is the _____, representing the basal part of the ovule.

- (A) Hilum
- (B) Funicle
- (C) Chalaza
- (D) Nucellus

108. Auxiliary bud develops into which of the following part of the plant?

- (A) Fruit
- (B) Leaf
- (C) Branch
- (D) Roots

109. Xylem helps in transportation of which of the following?

- (A) Food
- (B) Water
- (C) Nutrients
- (D) Both food and water

110. Which part of the plant gives us saffron?

- (A) Roots
- (B) Petals
- (C) Stem
- (D) Stigma

111. Which of the following transports water from the roots of the plant to its leaves?

- (A) Xylem
- (B) Phloem
- (C) Both xylem and phloem
- (D) Cortex

112. Photosynthesis takes place in the presence of chlorophyll and ____.

- (A) Water
- (B) Nutrients
- (C) Carbon-dioxide
- (D) Sunlight

113. Cinnamon is obtained from which part of the plant?

- (A) Stem
- (B) Bark
- (C) Roots
- (D) Fruits

114. What is the role of Pneumatophores?

- (A) Protect plant from animals
- (B) Get oxygen for respiration
- (C) Supports plant in standing upright
- (D) Helps plant for pollination

115. The first formed primary xylem elements are called ____.

- (A) Metaxylem
- (B) Protoxylem
- (C) Xylem fibres
- (D) Xylem parenchyma

116. The later (second) formed primary xylem elements are called ____.

- (A) Protoxylem
- (B) Metaxylem
- (C) Xylem parenchyma
- (D) Xylem fibres

117. In stems, the protoxylem lies towards the centre and the metaxylem lies towards the periphery of the organ. This type of primary xylem is called ____.

- (A) Xylem fibres
- (B) Xylem parenchyma
- (C) Exarch
- (D) Endarch





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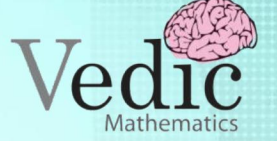
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118. _____ are made up of sclerenchymatous cells. These are generally absent in the primary phloem but are found in the secondary phloem.

- (A) Xylem fibres (B) Xylem parenchyma
(C) Phloem parenchyma (D) Phloem fibres

119. In roots, the protoxylem lies towards periphery and metaxylem lies towards the centre. Such arrangement of primary xylem is called _____.

- (A) Xylem fibres (B) Xylem parenchyma
(C) Exarch (D) Endarch

120. The male sex organs in a flower is the _____.

- (A) Zoospores (B) Stamen
(C) Pistil (D) Chlorophyceae

121. The female sex organs in a flower is the _____.

- (A) Zoospores (B) Stamen
(C) Pistil (D) Chlorophyceae

