B. Sc. II - Sem - III

Paper - VII (Plant physiology and Biochemistry)

MCQ's

(1) Water available to the plant is ---
- (a) run off water
- (b) gravitational water
- (c) hygroscopic water
- (d) capillary water

(2) seeds swell when placed in water because of
- (a) osmosis
- (b) Imbibition.
- (c) Hydrolysis
- (d) None.

(3) In the process of osmosis
- (a) both protoplasm and cell wall act as a single layer.
- (b) only protoplasm acts as a single layer.
- (c) only cell membrane acts as a single layer.
- (d) None of the above.

(4) If a piece of potato tuber is placed in concentrated sugar solution
- (a) It would become limp due to the loss of water from its cells.
- (b) it would become turgid by absorbing water from sugar solution.
- (c) The cells will show endoosmosis.
- (d) It swells up due to imbibition.

(5) plasmolysis occurs
(a) Absorption
(b) osmosis
(c) Endoosmosis
(d) Exoosmosis.

(6) A cell will become fully turgid if it is placed in
(a) Hypotonic solution.
(b) Isotonic solution
(c) Hypertonic solution
(d) All of the above

(7) Which one of the following is the most widely accepted explanation for ascent of sap?
(a) capillary
(b) Atmospheric pressure
(c) pulsation activity
(d) Transpiration pull.

(8) Which one of the following factors is the most important in the regulation of transpiration?
(a) Humidity
(b) Light
(c) Temperature.
(d) Wind.

(9) process of water exudation through hydathodes is called
(a) guttation
(b) Transpiration
(c) Excretion
(d) hydrolysis

(10) Cohesion theory of ascent of sap was given by

(a) Dixon and Jolly.
(b) Bose
(c) Munch
(d) Stephen Hales.

(11) stomata open during the day time because the guard cells

(a) photosynthetic and produce osmotically active sugars.
(b) are thin walled.
(c) are bean shaped.
(d) have to help in gaseous exchange.

(12) Root pressure is maximum when

(a) transpiration is high and absorption is very low
(b) transpiration is very low and absorption is high.
(c) transpiration is very high and absorption is also high.
(d) transpiration and absorption both are low.

(13) A cell placed in solution gets plasmolysed. This solution is

(a) Hypotonic
(b) Hypertonic
(c) Isotonic
(d) Ditonic

(14) Active K^+ exchange mechanism for opening and closing of stomata was given by
(a) Khorana
(b) Sachs
(c) Levitt
(d) Strasburger

(15) Conversion of starch to organic acid is essential for
(a) stomatal closure.
(b) stomatal growth
(c) stomatal opening
(d) stomatal initiation

(16) Nitrogen is an important constituent of
(a) proteins
(b) Lipids
(c) carbohydrates
(d) phospholipids.

(17) The micronutrient among these is
(a) Zn
(b) N
(c) P
(d) Ca.

(18) Magnesium is an important component of
(a) Haemoglobin
(b) Florigen
(c) Enzymes
(d) chlorophyll

(19) A trace element is an element which
(a) is a radioactive element and can be traced by geiger counter
(b) is required in very minute amounts
(c) draws other elements out of protoplasm
(d) was one of the first to be discovered.

(20) Premature leaf fall is due to deficiency of
(a) sodium
(b) potassium
(c) zinc
(d) phosphorus.

(21) Plants require one of the following for formation of ATP
(a) N, Ca
(b) N, P
(c) N, Cu
(d) K

(22) Direction of conduction of food through phloem is
(a) from below upward
(b) from tip to bottom
(c) from leaves to roots
(d) phloem never conducts food.

(23) Most widely accepted theory of translocation of solutes is
(a) Mass flow theory
(b) Root pressure theory.
(c) Imbibition theory.
(d) Transpiration theory.

(24) Which of the following element is necessary for translocation of sugars in plants?

(a) Boron
(b) Molybdenum
(c) Manganese
(d) Iron.

(25) Iron is mainly absorbed in

(a) ferrous form
(b) ferric form
(c) both a and b
(d) None of above.

(26) Active transport of ions by the cell requires

(a) High temperature
(b) ATP
(c) Alkaline pH
(d) salts

(27) The movement of mineral ions into plant root cells as a result of diffusion is called

(a) Endocytosis
(b) osmosis
(c) passive absorption
(d) Active absorption

(28) Movement of Drosera is

(a) Thigmotropism
(b) Thigmonastic
(c) Thermonestic
(d) Photonastic

(29) Avena coleoptile test was conducted by
(a) Darwin
(b) N. Smit
(c) Paal
(d) F. W. Went

(30) Which of the following induces cell division in a cell.
(a) cytokinins
(b) Gibberellins
(c) Auxins
(d) ABA

(31) coconut milk factor is
(a) an auxin
(b) a gibberellin
(c) abscisic acid
(d) cytokinin

(32) What will happen if terminal buds are removed from a plant?
(a) The plant will die.
(b) The lateral buds will grow profusely.
(c) The roots will die.
(d) The shoot will die.

(33) Auxanometer is an instrument with which we can measure the
(a) rate of respiration
(b) rate of photosynthesis
(c) Geotropism
(d) rate of growth.

(34) 2,4-D is a:

(a) flowering hormone
(b) rooting hormone
(c) herbicide
(d) pesticide.

(35) The plants respond to photoperiods due to the presence of:

(a) phytochromes
(b) stomata
(c) Enzymes
(d) phytohormones.

(36) To remove seed dormancy by mechanical removing of seed coat is called:

(a) stratification
(b) vernalization
(c) scarification
(d) photoperiodism

(37) vernalization is done at

(a) Low temperature
(b) Low light intensity.
(c) High temperature
(d) High light intensity.

(38) The photoperiodic stimulus is perceived by:

(a) Leaves
(b) Flowers
(c) Buds
(d) meristem

(39) In plants, the induction of flowering by low temperature treatment is called:

(a) pruning
(b) cryobiology
(c) vernalisation
(d) photoperiodism

(40) Leaf fall starts when the amount of

(a) auxin increases
(b) auxin decreases
(c) abscisic acid decreases
(d) gibberellic acid decreases.

(41) The following is a naturally occurring growth inhibitor:

(a) IAA
(b) ABA
(c) NAA
(d) GA

(42) Germination of the seed is promoted by

(a) green light
(b) red light
(c) blue light
(d) infrared light.

(43) The closing and opening of leaves of mimosa pudica is due to

(a) Thermonastic movement.
(b) Hydrotropic movement
(c) seismonastic movement
(d) chemonastic movement.

(44) Carbohydrates consists of C, H and O in the proportion of.

(a) 1:2:1
(b) 2:1:1
(c) 1:1:2
(d) None of above.

(45) Sucrose is a

(a) Monosaccharide
(b) Disaccharide
(c) Oligosaccharide
(d) Polysaccharide.

(46) Laundry starch is prepared from

(a) proteins
(b) Fats
(c) Vegetable starch
(d) All of above.

(47) All enzymes are

(a) proteins
(b) carbohydrates
(c) Lipids
(d) None of above

(48) Tannins are
(a) primary metabolites
(b) secondary metabolites
(c) both a and b
(d) none of above

(49) Morphine was a
(a) tannins
(b) alkaloid
(c) flavonoid
(d) terpenoid

(50) Omega-3-fatty acid is present in
(a) Fish oil.
(b) Custard oil
(c) sunflower oil.
(d) coconut oil

(51) Which one of the following is against concentration gradient?
(a) Diffusion (b) Translocation
(c) osmosis (d) Transpiration

(52) Freshly cut potato chip is put into a strong solution of sugar, later it is found to be:
(a) Flacid
(b) turgid
(c) more full of starch
(d) none full of sugar.

(53) The process of selective transmission through semipermeable membrane is called:
(a) diffussion
(b) osmosis
(c) plasmolysis
(d) imbibition

(54) The initial stage of water absorption by root cells is by:
(a) Adsorption
(b) imbibition
(c) osmosis
(d) respiration

(55) Which one of the following is connected with transport of water in plants?
(a) phloem
(b) xylem
(c) Epidermis
(d) cambium

(56) Water absorption through roots can be increased by;
(a) increased rate of photosynthesis
(b) decreased absorption of ions.
(c) increased transpiration
(d) decreased transpiration.

(57) Of the process which occur in leaves, the one which may lower their temperature is:
(a) photosynthesis
(b) transpiration
(c) hydrolysis
(d) respiration.

(58) The transpiration in plants will be lowest:
(a) when there is high humidity in the atmosphere
(b) there is excess of water in the cell
(c) environmental conditions are very dry.
(d) high wind velocity.

(59) The process of transpiration in plants help in:
(a) opening of stomata
(b) absorption of CO_2 from atmosphere
(c) upward conduction of water and minerals
(d) absorption of O_2 from atmosphere.

(60) Which one of the following is the most common type of transpiration?
(a) stomatal
(b) Lenticular
(c) Foliar
(d) cuticular.

(61) Maximum transpiration occurs through
(a) stem
(b) leaf
(c) fruit
(d) root

(62) Wilting of a plant results from excessive:
(a) photosynthesis
(b) absorption
(c) transpiration
(d) respiration.

(63) stomata in Angiosperms open and close due to:
(a) pressure of gases inside the leaves.
(b) changes of turgor pressure in guard cells.
(c) effect of hormones.
(d) their genetic constitution.

(64) The process of the escape of liquid from the tip of uninjured leaf or through hydathodes is called:
(a) transpiration
(b) guttation
(c) evapo-transpiration
(d) evaporation.

(65) conduction of inorganic materials in plants occur mainly through:
(a) xylem
(b) phloem
(c) sieve tube
(d) cambium.

(66) Which of the following is a micro nutrient or a trace element?
(a) Mg
(b) Zn
(c) P
(d) K

(67) Active mineral absorption depends on:
(a) expenditure of energy.
(b) ions move freely
(c) ions move passively
(d) ions are active

(68) Phosphorus is a structural element in:

(a) proteins
(b) cytochrome
(c) carbohydrates.
(d) DNA

(69) Ethylene is a:

(a) gaseous harmone.
(b) gaseous enzyme.
(c) solid hormone.
(d) liquid gas mixture.

(70) Garner and Allard are related with:

(a) photophosphorylation
(b) photoperiodism
(c) phototropism
(d) chemotropism.

Answer Key

1. d
2. b
3. b
4. a
5. d
6. a
7. d
8. a
9. a
10. a
11. a
12. b
13. b
14. c
15. c
16. a
17. a
18. d
19. a
20. d
21. b
22. c
23. a
24. a
25. b
26. b
27. c
28. b
29. d
30. a
31. d
32. b
33. d
34. c
35. a
36. c
37. a
38. a
39. c
40. b
41. b
42. b
43. c
44. a
45. b
46. c
47. a
48. b
49. b
50. a
51. d
52. a
53. b
54. b
55. b
56. c
57. b
58. a
59. b
60. a
61. b
62. c
63. b
64. b
65. a
66. b
67. a
68. d
69. a
70. b