Subject Title: Plant Physiology Prepared by: Noori Sultana
Year: III Semester: VI Updated on: 23-3-

Unit - I: Essay type questions

1. Structure, importance & properties of water in relation to plant life
2. An account of Active & Passive absorption mechanisms involved in water absorption
3. What is Ascent of Sap? Discuss various theories explaining its mechanism
4. Vital theories & Root pressure theory in relation to transport of water in plants
5. What is Transpiration? Describe the mechanism of closing & opening of stomata
6. Factors controlling stomatal movements
7. Criteria for essentiality of elements. Give physiological role of Magnesium, Sulphur, Potassium & Iron
8. What are Macronutrients? Describe their role in plants
9. Mass flow theory proposed by Munch(Translocation of solutes)
10. What are enzymes? Give an account of their structure, properties, nomenclature & classification.

Short questions

11. Water potential
12. Osmosis
13. Plasmolysis
14. Apoplast & Symplast
15. Field capacity
16. Transpirational pull
17. Evidences in support of Cohesion Tension Theory
18. K+ Ion influx mechanism (Levitt theory)
19. Significance of Transpiration
20. Antitranspirants

21. Trace elements
22. Hydroponics
23. Carrier concept
24. Source-sink relationship
25. Competitive & non competitive inhibition
26. Regulation of enzyme activity
27. Michales constant
28. Properties of enzymes
29. Lock & key theory

Unit II -Essay type questions

30. Calvin cycle/C3 cycle
31. C4 cycle/ Hatch & Slack Pathway
32. Biological Nitrogen fixation
33. Nitrogen cycle
34. Proteinsynthesis

Short questions

35. Photosystems I & II
36. Photosynthetic pigments
37. Absorption & action spectrum
38. Emerson Enhancement Effect
39. Differences between C3 & C4 Plants
40. CAM
41. Cyclic photophosphorylation
42. Red drop
43. Z Scheme/ Non cyclic photophosphorylation
44. Symbiotic Nitrogen fixation
45. Physiology of Nodule formation
46. Mechanism of Nitrogen Fixation

47. Amino acids
48. t RNA
49. Genetic code
50. Transcription
51. Translation
52. Reductive amination
53. Transamination
54. Nitrogenase

Unit III- Essay type questions

55. Glycolysis/ EMP Pathway
56. Kreb's cycle/ TCA Cycle/ Citric acid cycle
57. What are Phytohormones? Describe in detail about Auxins & Gibberllins
58. Essay on Cytokinins
59. Abssiccic acid- ABA (Growth inhibitor)
60. Brassinosteroids
61. Photoperiodism

Short questions

62. Fermentation
63. Oxidative Phosphorylation
64. ATPase complex
65. Respiratory quotient
66. Mitochondria
67. Balance sheet/ net gain of ATP in Aerobic respiration
68. Chemiosmotic hypothesis
69. Avena curvature test
70. Applications of Auxins in Horticulture
71. Uses of Gibberllins
72. Ethylene

73. Role of Phytochrome n flowering
74. Vernalization
75. Modern view about Phtochrome
76. Types of Stress resistance
77. Salt & Freezing stress