

**XI - BIO – BOTANY VOLUME – II – IMPORTANT QUESTIONS****CHAPTER -9 PLANT ANATOMY****2 and 3 MARKS**

1. Define tissue and types -2
2. What are the characteristic of meristematic tissue – 2
3. What are types of apical meristem -3
4. What are the types of histogen theory in root apical theory – 4
5. What are the type of simple tissue – 5
6. What is Quiescent centre concept – 5
7. What is aerenchyma give an example – 6
8. What is stellate parenchyma? – 6
9. What stone cell? Give an example -7
10. Draw the diagram and label the parts of angular collenchyma
11. Draw the diagram and label the parts of sclereids types – 8
12. What are the types of wood fibres -9
13. Define centarch give example – 10
14. What is mesarch give an example -10
15. Draw a diagram of type of secondary wall thickenings.-10
16. What are the types of phloem – 11
17. What are the types of sclereids -13
18. Different between meristematic tissue and permanent tissue – 14
19. Different between tracheids and fibres – 15
20. Different between Sieve cells and sieve tube – 15
21. What is bulliform cell give an example – 18
22. Draw a diagram and label the parts of stomata cell. 18
23. Define sunken stomata -18
24. What is trichoblasts -19
25. Write about function of epidermal tissue -20
26. What is passage cell -21
27. What is casparian strips – 21
28. Draw a diagram and label the parts of various types of vascular tissue – 22
29. Different between protoxylem and metaxylem – 23
30. What is exarch and endarch xylem – 10
31. What is eustele – 27
32. Define Bundle cap – 27
33. What is protoxylem lacuna? 29
34. Different between palisade parenchyma and spongy parenchyma – 30
35. What is dorsiventral leaf ? give an example – 31
36. What is mesophyll -31

37. What is bulliform cell -32
38. What is Kranz sheath – 33
39. What is guttation -33
40. Define hydathode -33

**5 marks**

1. Write about classification of meristem – 2
2. Explain shoot apical theory – 3
3. Explain root apical theory – 4
4. Explain types of parenchyma – 5
5. Explain types of collenchyma – 6
6. Explain types of sclereids – 7
7. Write about xylem tracheids 10
8. Explain sieve tubes -12
9. Explain various types of vascular bundle -21
10. Draw and label the parts of dicot root – 25
11. Different between dicot root and monocot root – 26
12. Draw and label the parts of dicot stem
13. Draw and label the parts of dicot leaf
14. Draw and label the parts of monocot root
15. Draw and label the parts of monocot stem
16. Draw and label the parts of monocot leaf.
17. Different between monocot stem and dicot stem -30
18. Explain monocot leaf -33
19. Explain dicot leaf – 32

**CHAPTER 10 SECONDARY GROWTH**

**2 and 3 marks**

1. Define vascular cambium – 39
2. Different between intrafascicular cambium and interfascicular cambium – 39
3. What is hard wood and soft wood and example -40
4. Define annual rings? 44
5. Different between early wood and late wood 45
6. What is dendrochronology -44
7. Different between diffuse porous wood and ring porous wood -46
8. What is tyloses – 46
9. Define periderm – 48
10. Different between vascular cambium and cork cambium – 50
11. Define lenticels – 50
12. Define quinone
13. Different between secondary growth in stem and dicot root

**5 marks**

1. Explain annual rings -44

2. Different between sapwood and hard wood – 47
3. Write about economic importance of wood -47

### **CHAPTER 11. TRANSPORT OF PLANTS**

#### **2 and 3 marks**

1. Define passive transport -58
2. What is diffusion – 59
3. Define imbibitions -63
4. Define osmosis – 65
5. What is plasmolysis -66
6. Define Apoplast -68
7. Define symplast – 69
8. Different between active absorption and passive absorption – 69
9. What is ascent of sap – 71
10. What is guttation – 80

#### **5 marks**

1. Explain passive transport – 59
2. Explain active transport – 62
3. Write about types of transpiration -75
4. Explain mechanism of stomatal movement – 76
5. Write about factors affecting rate of transpiration – 78
6. Explain Ganong's photometer experiments – 80
7. Explain Münch mass flow hypothesis – 83

### **CHAPTER 12 – MINERAL NUTRITION**

#### **2 AND 3 MARKS**

1. What are macronutrients give an example – 92
2. What are micronutrients give an example – 92
3. What are hydroponics and aeroponics – 97
4. What is nitrification -100
5. What is total parasite – 102
6. What is partial parasite – 102
7. What are lichens -103
8. What is mycorrhiza

#### **5 marks**

1. Write about name of the deficiency disease and symptom and deficiency mineral – 96
2. Explain nitrogen metabolism – 99
3. Write about insectivorous plant mode of nutrition -103

### **CHAPTER 13 – PHOTOSYNTHESIS**

#### **2 and 3 marks**

1. What is photosynthesis -109
2. Overall equation of photosynthesis – 109
3. What are photosynthetic pigments – 111

4. Explain Hill reaction -117
5. What is light reaction and Dark reaction – 118
6. What is PSI and PSII -120
7. What is photolysis of water -120
8. Define photophosphorylation – 123
9. What is dicarboxylic acid cycle -123
10. Significance of C4 cycle -130
11. Significance of CAM cycle -131
12. Write about significance of photorespiration -132
13. What is compensation point -132

**5 marks**

1. Write about significance of photosynthesis -110
2. Explain site of photosynthesis -110
3. Different between PSI and PSII – 120
4. Explain cyclic photophosphorylation -122
5. Explain non cyclic photophosphorylation – 122
6. Different between cyclic and non cyclic photophosphorylation – 124
7. Explain Calvin cycle or C3 cycle – 126
8. Explain C4 or Hatch and Slack pathway -127
9. Explain C2 cycle or Photorespiration – 131
10. Different between C3 and C4 cycle – 127
11. Different between photorespiration and Dark respiration – 131
12. Different between photosynthesis in plants and photosynthesis Bacteria – 136

**CHAPTER 14. RESPIRATION****2 OR 3 MARKS**

1. Write about overall equation of respiration -140
2. Structure of ATP -141
3. What is aerobic respiration – 142
4. What is anaerobic respiration – 142
5. Define Glycolysis -145
6. What is Enolization – 145
7. Draw a diagram and label the parts of mitochondria – 146
8. Write about stages of respiration – 142
9. Write notes of significance of Krebs cycle – 149
10. Mitochondria is power house of cell Why?151
11. What is respiratory quotient – 152
12. Different between alcoholic fermentation and Lactic acid fermentation -156
13. Different between Glycolysis and fermentation – 156
14. Signification of pentose phosphate pathway – 160

**5marks**

1. Out line for Glycolysis -144
2. Outline for krebs cycle – 147



3. Explain electron transport chain – 149
4. Explain pentose phosphate pathway – 158

### **CHAPTER 15 GROWTH AND DEVELOPMENT**

#### **2 or 3 marks**

1. What are the three phases of growth – 164
2. What are the stages of growth rate – 165
3. Define differentiation – 170
4. Define dedifferentiation – 170
5. What is redifferentiation – 170
6. What is natural Auxin – 172
7. What is Artificial Auxin – 173
8. What is apical dominance – 173
9. What are the agricultural role of Auxin -174
10. What is Bolting -174
11. Write about Agricultural role of Gibberellins -175
12. What is Richmond long Effect – 176
13. Write about agricultural role of Ethylene – 176
14. Write about agricultural role of ABA – 179
15. ABA is stress hormone why? -179
16. What is long day plant give an example – 179
17. What is short day plant give an example -179
18. What is photoperiodic induction – 180
19. Write about importance of photoperiodism -180
20. What is phytochrome – 180
21. What is vernalization – 182
22. Write about importance of photoperiodism – 180
23. What is epigeal germination – 183
24. What is hypogeal germination – 183
25. What is PCD? 186
26. What are the significance of Abscission – 187

#### **5marks**

1. Write about characteristics of growth – 163
2. Explain stages of growth – 165
3. Explain lever auxanometer – 169
4. Physiological role of Auxin – 174
5. Physiological role of Gibberellins – 174
6. Physiological role of Cytokinins – 175
7. Physiological role of Ethylene – 176
8. Physiological role of ABA
9. What are the methods of breaking dormancy – 184
10. Explain types of senescence – 185

**D. RAJAMANI, ACSMHSS, ARNI. T.V.MALAI DIST**



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