



NORTH MAHARASHTRA UNIVERSITY,  
JALGAON (M.S.)

QUESTION BANK

S.Y.B.Sc. (BOTANY)  
(W.E.F. 2008-09)

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### **QUESTION PAPER PATTERN**

Q.1	Solve any FOUR questions out of 06 (02 Marks each)	(08)
Q.2.	Solve any TWO questions out of 03 (04 Marks each)	(08)
Q.3.	(A) Solve any TWO questions out of 03 (03 Marks each)	(06)
	(B) Compulsory Question 01 (02 Marks)	(02)
Q.4.	Solve two questions out of 03 (04 Marks each)	(08)
Q.5.	(A) Solve any one question out of 02 (06 marks each)	(06)
	(B) Compulsory Question 01 (02 Marks)	(02)
	Total Marks	(40)

External Term End : 16 Marks out of 40 required for Passing.

Internal Test Exam : 04 marks out of 10 required for Passing

For Internal Exam : 05 Marks for Attendance and Performance  
05 Marks for Test Exam.

(Test Exam will be of 25 Marks which will be converted into 05 Marks)

## QUESTION BANK COMMITTEE

### Semester-I BOT 211 Paper-I : Morphology of Angiosperms

1. Dr.V.V.Bhadane Chairman Pratap College, Amalner
2. Dr.D.N.Shinde Member ASC College, Erandol.
3. Dr.S.K.Tayade Member PSGVPS ASC College, Shahada
4. Dr.L.P.Deshmukh Member JDMVPS College, Jalgaon

### Semester-I BOT 212 Paper-II : Plant Physiology

1. Dr.P.B.Bhamare Chairman Z.B.Patil College, Dhule
2. Prin.Dr.V.V.Bhaskar Member ASC College, Jamner
3. Dr.M.h.Shaikh Member ASC College, Sakri
4. Dr.K.B.Bendre Member Rashtriya College, Chalisgaon

### Semester-II BOT 221 Paper-I : Diversity of Angiosperms

1. Dr.S.S.Yadav Chairman Z.B.College College, Dhule
2. Dr.D.A.Patil Member S.S.V.P.S's Science College, Dhule
3. Dr.M.V.Patil Member GET'S ASC College, Nagaon
4. Prof.A.M.Patil Member R.L.College, Parola

### Semester-II BOT 222 Paper-II : Horticulture

1. Smt.Dr.L.T.Deore Chairman Z.B.Patil College, Dhule
2. Mrs.Dr.Shaila V. Sankhala Member Rashtriya College, Chalisgaon
3. Mrs.Dr.Shubhangi Pawar Member Pratap College, Amalner
4. Dr.G.T.Pardeshi Member J.D.M.V.P.S. ASC College, Varangaon

**S.Y.B.Sc. Paper- I**

**Bot. 211 : Morphology of Angiosperms**

**Questions each of 2 Marks (108 Questions)**

1. What is germination? Name types of germination.
2. What is epigeal germination? Give example.
3. What is hypogeal germination? Give example.
4. Draw sketch diagram showing epigeal germination.
5. Draw sketch diagram showing hypogeal germination.
6. Sketch and label monocotyledonous endospermic seed.
7. Sketch and label dicotyledonous endospermic seed.
8. Sketch and label embryo showing different parts.
9. Give the functions of different parts of seed.
10. Give functions of root.
11. Give the types of root system with example.
12. What is adventitious root system? Give example.
13. How root and stem differs from each other?
14. What is root? Name types of roots.
15. What is the difference between parasitic root and epiphytic root?
16. Describe conical root.
17. Describe fusiform root.
18. Describe napiform root.
19. What are lenticels? Where do you get them?
20. What is velamen tissue? Where do you get them?
21. What is modification of root? Name any two modifications of root for support.
22. Give the characteristics of root.
23. Give the functions of stem.
24. Give the characteristics of stem.
25. Draw and label the figure showing characteristics of stem.
26. Name the types of bulb with example.
27. What is cladode? Give example.
28. What is bulbil? Give example.
29. Give the functions of the offset.
30. Name the aerial modifications of stem.
31. Give any two differences between runner and sucker.

32. Describe tuber as underground modification of stem.
33. Why rhizome is called a stem?
34. Draw labelled figure showing parts of typical leaf.
35. Give the function of leaf.
36. Name the sub-types of opposite phyllotaxy with example.
37. Why insectivorous plants trap insect? Name any one insectivorous plant.
38. What is venation? Give main types of venation.
39. Describe whorled phyllotaxy.
40. Describe free lateral stipules.
41. Describe adnate stipules.
42. Describe intrapetiolar stipules.
43. Describe interpetiolar stipules.
44. Describe ochreate stipules.
45. Describe foliaceous stipule.
46. Describe spiny stipule.
47. Describe tendrillar stipule.
48. What is stipule? Give its functions.
49. Give the functions of foliaceous stipule and tendrillar stipule.
50. What is palmate compound leaf?
51. Describe leaf tendrils.
52. Describe fleshy leaf.
53. Describe leaf spine.
54. Describe any one modification of lamina.
55. What is inflorescence? Name types of inflorescence.
56. Give the significance of inflorescence.
57. Give the differences between racemose and cymose inflorescence.
58. Describe solitary cymose inflorescence.
59. Name the types of cymose inflorescence with example.
60. Give the difference between scorpioid and helicoid inflorescence.
61. Describe catkin (ament) inflorescence.
62. What is perianth? Give example.
63. What do you mean by complete flower?
64. What is regular flower? Give example.
65. What is irregular flower? Give example.
66. Draw labelled diagram showing parts of typical flower.

67. Give functions of different members of flower.
68. What is bract and bracteole?
69. What is pappus?
70. What is acrescent calyx? Give example.
71. What is macrescent calyx? Give example.
72. Describe persistent calyx.
73. Describe cruciform corolla.
74. Describe caryophyllaceous corolla.
75. Describe rosaceous corolla.
76. Describe tubular corolla.
77. Describe campanulate corolla.
78. Describe infundibuliform corolla.
79. Describe rotate corolla.
80. Describe ligulate corolla.
81. Describe bilabiate corolla.
82. Describe personate corolla.
83. Describe valvate aestivation.
84. Describe contorted aestivation.
85. Describe quincuncial aestivation.
86. Describe syngeny.
87. What is adelphy? Describe any one type of adelphy.
88. Describe synandry.
89. Describe marginal placentation.
90. Describe basal placentation.
91. Describe axile placentation.
92. Describe superficial placentation.
93. What is fruit? Name the parts of fruit.
94. What is simple dehiscent fruit? Give example.
95. Describe any simple dehiscent fruit.
96. Describe any simple indehiscent fruit.
97. What is schizocarpic fruit? Give example.
98. Describe legume.
99. Describe follicle.
100. Describe lomentum.
101. Describe caryopsis.

102. Describe achene.
103. Describe cypsela.
104. Describe nut.
105. Give differences between caryopsis and cypsela.
106. What is aggregate fruit? Name any one aggregate fruit with example.
107. What is composite fruit? Name any one composite fruit with example.
108. Give differences between simple fruit and composite fruit with one example of each.

**Questions each of 3 Marks (57 Questions)**

1. Describe epigeal germination.
2. Describe hypogeal germination.
3. Give the functions of different organs of plant.
4. Describe monocotyledonous non-endospermic seed studied by you.
5. Comment on epiphytic root.
6. Comment on parasitic root.
7. Describe pneumatophores.
8. Describe any one modification of root for support.
9. Describe prop roots.
10. What is root? Give its characteristics.
11. Describe floating roots.
12. Describe any one modification of adventitious root for support.
13. What is stem? Give its characteristics.
14. What is stem? Give its functions.
15. Write on erect stem.
16. Describe any one modification of underground stem.
17. Describe thorn.
18. Describe stem tendrils.
19. Describe stolon.
20. Write on offset.
21. What is leaf? Give functions of leaf.
22. Give parts of typical leaf.
23. Write on opposite phyllotaxy.
24. Describe reticulate venation.
25. Describe parallel venation.
26. Comment on pitcher plant.

27. Comment on bladder-wart.
28. Comment on venus fly-trap.
29. What is stipule? Describe ochreate stipule.
30. Comment on leaf spines.
31. Comment on leaf tendrils.
32. Comment on fleshy leaf.
33. Draw labeled figure for adnate, interpetiolar and intrapetiolar stipules.
34. What is inflorescence? Give the characteristics of racemose inflorescence.
35. What is inflorescence? Give the characteristics of cymose inflorescence.
36. Comment on spadix inflorescence.
37. Comment on corymb inflorescence.
38. Comment on monochasial cyme.
39. Describe polychasial cyme.
40. Describe verticillaster inflorescence.
41. Comment on cyathium.
42. Describe spike inflorescence.
43. What is flower? Draw labeled figure showing parts of typical flower.
44. What is bract? Describe any one modification of bract.
45. Comment on epigyny.
46. Comment on hypogyny.
47. Comment on perigyny.
48. Describe parts of typical carpel.
49. Define simple, aggregate and composite fruits.
50. Describe any simple dehiscent fruit.
51. Describe any simple indehiscent fruit.
52. Describe any schizocarpic fruit.
53. Comment on sorosis.
54. Comment on drupe.
55. Comment on carcerule.
56. What is fruit? Give different parts of fruit.
57. Describe aggregate fruit, any one type.

**Questions each of 4 Marks (70 Questions)**

1. Describe any dicotyledonous endospermic seed.
2. Describe any dicotyledonous non-endospermic seed.

3. Describe any monocotyledonous endospermic seed.
4. What is germination? Describe epigeal germination.
5. What is germination? Describe hypogeal germination.
6. Give types of root.
7. Describe conical root and floating root.
8. Describe prop root with example.
9. Write on napiform root and tuber roots.
10. Write on parasitic root.
11. Describe epiphytic root with giving example.
12. Give note on pneumatophores
13. Describe any two types of stem.
14. Describe any two modifications of root for storage.
15. Describe any two modifications of root for support.
16. Give characteristics of root.
17. Give functions features of root.
18. Describe the prop root.
19. What is leaf? Describe parts of typical leaf.
20. What is leaf? Give functions of leaf.
21. Give kinds of stipule
22. What is stipule? Describe any two types of stipules studied by you.
23. Describe interpetiolar and intrapetiolar stipules with giving suitable example.
24. Describe free lateral and adnate stipules with giving suitable example.
25. Explain leaf spine and leaf tendril.
26. What is phyllotaxy? Give types of phyllotaxy.
27. Give different types of pinnately compound leaf.
28. Give different types of palmately compound leaf.
29. What is palmately compound leaf? Describe any two types.
30. Describe any insectivorous plant.
31. Write note on pitcher (Insectivorous plant).
32. Which type of leaf modification is seen in onion?
33. Which type of leaf modification is seen in bladder-wort?
34. What is racemose inflorescence? Describe any two types of racemose inflorescence.
35. Describe cyathium inflorescence.
36. Describe capitulum inflorescence.
37. Describe spadix inflorescence.

38. Describe hypanthodium inflorescence.
39. Give the differences between racemose and cymose inflorescence with examples.
40. Describe any two types of cymose inflorescence.
41. Give the significance of inflorescence.
42. What is flower? Give various parts of flower.
43. Explain the modification of bract.
44. Explain the modification of calyx.
45. Explain any two forms of polypetalous corolla.
46. Explain any two forms of gamopetalous regular corolla.
47. Describe ligulate corolla. Give example.
48. Describe bilabiate corolla. Give example.
49. Sketch and label the papilionaceous corolla.
50. Describe papilionaceous corolla. Give example.
51. What is aestivation? Describe any two types of aestivation.
52. Give the types of aestivation.
53. Describe vexillary aestivation. Give example.
54. Sketch and describe any two types of aestivation studied by you.
55. Describe adhesion of stamens.
56. Describe monadelphous and diadelphous stamens.
57. Write on adelphy.
58. Sketch label and describe superficial placentation.
59. Sketch label and describe free central placentation.
60. What is placentation? Describe free central placentation.
61. What is placentation? Describe any two types of placentation.
62. Describe capsule fruit. Describe its types
63. Describe legume and follicles.
64. Describe any two simple dehiscent fruits.
65. Give any two types of schizocarpic fruits with example.
66. Describe different types of simple dry indehiscent fruits.
67. Describe drupe and berry.
68. Describe the types of aggregate fruits.
69. What is composite fruit? Add note on syconus.
70. Describe sorosis.
71. Describe hesperidium fruit

### Questions each of 6 Marks (37 Questions)

1. Give characteristic of root and describe its types.
2. Explain modifications of root for storage.
3. Define root and give its functions.
4. Describe any three root modifications for support.
5. What is modification? Describe any two underground modifications of stem studied by you.
6. What do you mean by modification? Explain any two subaerial modification of stem.
7. Describe aerial modification of stem (any four).
8. Give brief account on functions of stem.
9. Describe different types of stem.
10. Name the different types of stem. Describe any two of them.
11. Write note on creepers and lianas.
12. What is modification? Give outline of modifications in stem with suitable examples.
13. Describe different types of phyllotaxy.
14. Describe any four types of stipules with example studied by you.
15. Give different kinds of stipules with suitable examples.
16. What is pinnately compound leaf? Describe its types.
17. What is venation? Describe types of reticulate venation.
18. What is venation? Describe types of parallel venation.
19. Give an account on modification of leaf.
20. Describe leaf modification in *Opuntia* and *Gloriosa*.
21. Describe leaf modification in pitcher.
22. Give an account on insectivorous plants in relation to modification of leaf.
23. Describe any two special types of inflorescence studied by you.
24. Describe any three cymose type of inflorescence.
25. Describe catkin, spadix and umbel types of inflorescence.
26. Sketch, label and explain verticillaster inflorescence.
27. Describe different types of corolla studied by you.
28. Explain hypogyny, epigyny and perigyny in flower.
29. Explain the forms of polypetalous corolla.
30. Give forms of gamopetalous irregular corolla.
31. Describe the types of regular gamopetalous corolla.
32. Describe cohesion of stamens.
33. Explain adhesion of stamens.

34. Explain any three types of schizocarpic fruits with suitable example.
35. Describe any three types of fleshy fruit.
36. What is composite fruit? Describe its types studied by you.
37. What is aggregate fruit? Describe any two types of aggregate fruits.

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**QUESTION BANK**  
**BOT-212 : S.Y.B.Sc. (BOTANY) PAPER-II**  
**SEM-II – PLANT PHYSIOLOGY**

**Question of 2 Marks (93 Questions)**

1. Define Plant Physiology
2. Give any two importance of plant physiology in Agriculture.
3. Give importance of plant physiology in Medicine.
4. Give importance of plant physiology in Horticulture
5. Give two importance of plant physiology.
6. 'Water is an Universal Solvent' Explain.
7. Give application of plant physiology (Any two)
8. Give chemical properties of water.
9. Give physical properties of water.
10. Explain chemical structure of water.
11. Explain Hydrogen bonding in water.
12. What is adhesive and cohesive force.
13. Define the phenomenon of diffusion.
14. What is diffusion pressure.
15. Define law of diffusion of gases.
16. Define osmosis.
17. Explain osmotic pressure.
18. What is wall pressure (WP)?
19. What is Turgor Pressure (TP)?
20. Explain osmotic potential.
21. What are the prerequisites of osmosis ?
22. Define the diffusion pressure deficit (DPD).
23. Explain ex osmosis and end osmosis.
24. Explain the terms plasmolysis.
25. Explain the term deplasmolysis.
26. Explain Isotonic and hypotonic solutions.

27. Explain hypotonic and hypertonic solutions.
28. Explain Isotonic and hypertonic solutions.
29. What is imbibition?
30. Explain Metric Potential (Imbibition Pressure)
31. What is active adsorption of water ?
32. What is Passive Absorption of Water ?
33. What is Xylem Sap ?
34. Explain ascent of Sap.
35. Describe border pit.
36. What are pit cavity and torus ?
37. Define transpiration.
38. Explain stomatal transpiration.
39. Explain cuticular transpiration.
40. Explain lenticular transpiration.
41. Sketch and label structure of typical stomata.
42. Enlist the types of transpiration.
43. Define Photosynthesis.
44. What are actual sites for photosynthesis.
45. Why twelve H<sub>2</sub>O molecules are essential for photosynthesis reaction.
46. Give ultrastructure of Granum.
47. Enlist the photosynthetic pigments.
48. What is photophosphorylation.
49. Give arnon is reaction of photosynthesis.
50. What is photolysis ?
51. What is Law of Limiting Factor ?
52. Mention four steps in Calvin's cycle.
53. Explain Kranz Anatomy.
54. Write correct equation of photosynthesis.
55. Give significance of photosynthesis.
56. Name the first state products of C<sub>3</sub> and C<sub>4</sub> pathway.
57. Name of CO<sub>2</sub> acceptor of C<sub>3</sub> and C<sub>4</sub> Cycle.
58. Define respiration.

59. Define aerobic and anaerobic respiration.
60. What are F1 and F0 Particals.
61. Give sites for aerobic respiration.
62. What is fermentation?
63. Give correct equation of aerobic respiration.
64. Give balanced equation of aerobic respiration.
65. Give balanced equation of anaerobic respiration.
66. Give correct equation of anaerobic respiration.
67. What is primary metabolism ?
68. What is secondary metabolism ?
69. What are primary and secondary metabolites ?
70. What is Monosacrharides.
71. Explain disaccharides.
72. Explain polysaccharides.
73. What are Carbohydrates ?
74. What are Proteins ?
75. What are Pats ?
76. What are Phenolics ?
77. What are Turpenoids ?
78. What are Glycosides ?
79. What are Alkaloids ?
80. Give two functions Carbohydrate.
81. Give two functions Proteins.
82. Give two functions Fats.
83. Give two functions Phenols.
84. Give two functions Turpenoids.
85. Give two functions Glycosides
86. Give two functions Alkaloids
87. Give structure of Aminoacid.
88. What is redox reaction.
89. Give two examples each of Primary and Secondary Metabolites.

90. What are Photosynthetic pigment system I (PS-I) and Pigment System –II (PS-II).
91. What are accessory pigments.
92. Difference between PS-Ist and PS-IIInd.
93. Give functions of Caratenoids.

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**Question of 03 Marks (35 Qeustions)**

1. Explain importance of cohesive and adhesive forces in ascent of sap.
2. Explain importance of cohesive and adhesive forces in Transpiration.
3. What is diffusion ? Explain the Phenomenon.
4. What is diffusion ? Explain the phenomenon with suitable example.
5. Give relationship between OP, TP and DPD.
6. Explain the terms plasmolysis and deplamolysis.
7. Describe different types of solution in relation to cell sap.
8. Give significance of imbibition.
9. What is imbibitions? Give of Transpiration.
10. Describe and three uses of Transpiration.
11. Describe the type of transpiration.
12. Describe pigment System-I.
13. Describe Pigment System-II.
14. Describe Hill reaction.
15. Give outline of Calvin Cycle.
16. Explain the effect of O<sub>2</sub> an photosynthesis.
17. Give the differences between bundle sheath and mesophyll chloroplasts of C<sub>4</sub> plants.
18. Describe alcoholic fermentation.
19. Give three importance to plant physiology.
20. Give importance of adhesive and cohesive forces in ascent of sap.
21. Explain the process of osmosis.
22. Explain the role of root hairs in absorption of water.
23. What is osmotic and non osmotic theory of water absorption.

24. How structure of stomata influencing opening and closing of stomata.
25. Describe oxidation of pyruvic acid to Acetyl coA.
26. What is respiration? And give types of respiration.
27. Give difference between anaerobic respiration and fermentation.
28. Give functions of carbohydrates.
29. Give functions of Protein.
30. Give functions of fat.
31. Give chemical nature of phenolic and distribution in plant cell.
32. What are alkaloids give functions of alkaloids.
33. Explain primary and secondary metabolism.
34. What are glycosides and give function of it.
35. Give any three significance of transpiration.

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#### **Question of 04 Marks (58 Questions)**

1. Give physical and chemical properties of water.
2. Define diffusion? Explain any two factors affecting the process.
3. Explain the role of diffusion in physiological processes in plants.
4. Explain the osmometer with suitable diagramme.
5. What is osmosis ? Explain the process.
6. What is DPD? How it is useful for absorption of water.
7. Explain briefly the concept of water potential.
8. Give differences between active and passive water absorption.
9. Describe the osmotic theory of water absorption.
10. Describe the non-osmotic theory of water absorption.
11. Describe the root pressure theory of ascent of sap.
12. Explain in brief Transpiration pull theory.
13. What is transpiration pull? How it is useful for ascent of sap?
14. Define transpiration? Explain various types of it.
15. Explain the mechanism of opening and closing of stomata.
16. Explain in brief Steward's theory of transpiration.

17. Describe in brief K<sup>+</sup>-pump theory of stomatal opening and closing.
18. Explain in brief the significance of transpiration.
19. Explain how transpiration is unavoidable.
20. Explain how transpiration is necessary evil.
21. Describe any two external factors affecting transpiration.
22. Describe ultra structure of chloroplast.
23. Describe Warburg's effect.
24. Describe cyclic photophosphorylation.
25. Describe non-cyclic photophosphorylation.
26. Write differences between cyclic and non-cyclic photophosphorylation.
27. Differentiate between C<sub>3</sub> and C<sub>4</sub> plants.
28. What is law of limiting factor? Explain effect of light on photosynthesis.
29. Describe the HSK (C<sub>4</sub>) pathway.
30. Describe photolysis of water.
31. Explain the effect of O<sub>2</sub> and CO<sub>2</sub> on photosynthesis.
32. Describe ultrastructure of chloroplast.
33. Describe ultra structure of mitochondria.
34. Describe EMP pathway.
35. Differentiate between aerobic and anaerobic respiration.
36. Describe cynde resistant respiration pathway.
37. Write the balance sheet of ATP generation in aerobic respiration.
38. Describe any two factors affecting respiration.
39. Explain the influence of light and temperature on rate of respiration.
40. Draw schematic representation of citric acid cycle.
41. Differentiate between photosynthesis and respiration.
42. Describe internal factors affecting rate of respiration.
43. Why glycolytic pathway is called common respiration explain.
44. Explain plant cell as organic laboratory.
45. Why C<sub>4</sub> plants are more efficient then C<sub>3</sub> plants? Explain.
46. Explain respiration as an energy liberating process.
47. Define and classify carbohydrates.
48. Describe distribution of carbohydrate in plants.

49. Give chemical nature and functions of carbohydrates.
50. Give chemical nature and function of proteins.
51. Give chemical nature and function of lipids.
52. What are proteins and what are their types.
53. Define and classify lipid.
54. Define alkaloid : Write their chemical nature and distribution.
55. Define Glycosides. Write their functions in plant.
56. Define Terpenoids. Write their chemical nature.
57. Write functions of Alkaloid and Glycosides in plants.
58. Write function of proteins in plants.

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#### **Question of 06 Marks (23 Questions)**

1. Explain the importance of osmosis in water absorption by roots.
2. Describe the mechanism of absorption of water from soil to xylem of root.
3. Describe the cohesion theory of ascent of sap.
4. Describe the structure of tracheid and vessel in relation to ascent of sap.
5. Explain in brief Dixon & Jolly theory of ascent of sap.
6. What is transpiration. Describe the Steward's theory of transpiration.
7. Define transpiration. Explain  $K^+$  pump theory of transpiration.
8. Give the significance of transpiration.
9. Explain the factors effecting rate of transpiration.
10. Explain non-cyclic photophosphorylation.
11. Describe HSK pathway and its significance.
12. Describe in brief the process of Dark reaction of photosynthesis.
13. Differentiate between  $C^3$  and  $C^4$  pathways.
14. Differentiate between schematic explanation of the process of glycolysis.
15. Describe Kreb's cycle of respiration.
16. Briefly describe the electron transport system in aerobic respiration.
17. Explain factors affecting rate of respiration.
18. What is respiration? Describe the energy releasing steps in Kreb's cycle.

19. Give the chemical nature and their distribution in plants.
20. Explain the distribution and functions of alkaloids in plant kingdom.
21. Give the chemical nature, distribution and functions of glycosides.
22. Discuss briefly the distribution of various terpenoids among plants.
23. Plants are organic laboratories Explain?

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**QUESTION BANK**  
**BOT-221 : S.Y.B.Sc. (BOTANY)**  
**SEM-II – DIVERSITY OF ANGIOSPERMS**

**Question of 2 Marks (100 Questions)**

94. Define the term Diversity.
95. Define the term Angiosperm
96. Define the term Taxonomy
97. What is alternation of generation ?
98. Enlist any two parasitic angiosperms
99. Enlist any two epiphytic angiosperms
100. Enlist any two aquatic angiosperms
101. Enlist any two vesselless angiosperms
102. Describe parasitic mode of nutrition in Angiosperms
103. Describe saprophytic mode of nutrition in Angiosperms
104. Define identification
105. Define nomenclature
106. Define classification
107. Who coined the term taxonomy
108. Who coined the term binomial nomenclature
109. Define artificial classification
110. Define natural classification
111. Define phylogenetic classification
112. Give the systematic position of family Annonaceae
113. Give the systematic position of family Malvaceae
114. Give the systematic position of family Rutaceae
115. Give the systematic position of family Meliaceae
116. Give the systematic position of family Mimosaceae
117. Give the systematic position of family Caesalpiniaceae
118. Give the systematic position of family Papilionaceae

119. Give the systematic position of family Myrtaceae
120. Give the systematic position of family Rubiaceae
121. Give the systematic position of family Sapotaceae
122. Give the systematic position of family Apocynaceae
123. Give the systematic position of family Solanaceae
124. Give the systematic position of family Labiatae
125. Give the systematic position of family Euphorbiaceae
126. Give the systematic position of family Liliaceae
127. Give the systematic position of family Commelinaceae
128. Describe the androecium of Annonaceae
129. Describe the androecium of Malvaceae
130. Describe the androecium of Papilionaceae
131. Describe the androecium of Solanaceae
132. Describe the androecium of Labiatae
133. Describe the androecium of Commelinaceae
134. Describe the gynoecium of Annonaceae
135. Describe the gynoecium of Malvaceae
136. Describe the gynoecium of Rubiaceae
137. Describe the gynoecium of Apocynaceae
138. Describe the gynoecium of Solanaceae
139. Describe the gynoecium of Labiateae
140. Describe the gynoecium of Euphorbiaceae
141. Describe the gynoecium of Liliaceae
142. Describe the fruit of Annonaceae
143. Describe the fruit of Mimosaceae
144. Describe the fruit of Papilionaceae
145. Describe the fruit of Solanaceae
146. Describe the fruit of Labiatae
147. Describe the fruit of Euphorbiaceae
148. Describe the fruit of *Anona*
149. Describe the fruit of *Azadirachta*
150. Describe the fruit of *Acacia nilotica*

151. Describe the fruit of *Pea*
152. Describe the fruit of *Catharanthus*
153. Describe the fruit of *Datura*
154. Describe the fruit of *Ocimum*
155. Describe the fruit of *Ricinus*
156. Describe the inflorescence of *Labiatae*
157. Define herbarium
158. Enlist two herbaria of India
159. Enlist the techniques of herbarium
160. Explain the techniques of drying of specimen
161. Explain the techniques of drying of poisoning specimen
162. Explain the techniques of drying of mounting specimen
163. Explain the techniques of drying of labelling specimen
164. What is the procedure of deposition of herbarium
165. What is herbarium specimen
166. Give the name and years of the book in which Bentham and Hooker's system published.
167. Give two examples of economically important plants of Annonaceae.
168. Give two examples of economically important plants of Malvaceae.
169. Give two examples of economically important plants of Sapotaceae
170. Give two examples of economically important plants of Solanaceae
171. Give two examples of economically important plants of Labiatae
172. Give two examples of economically important plants of Liliaceae
173. Give any two economic importance of *Annona squamosa*.
174. Give any two economic importance of *Azadirchta indica*
175. Give any two economic importance of *Achrus sapota*
176. Give any two economic importance of *Cantharanthus rosa*
177. Give any two economic importance of *Datura innoxia*
178. Give any two economic importance of *Oscimum bosillium*
179. Give any two economic importance of *Ricinnus communis*
180. Give any two economic importance of *Allium sativum*
181. Name the species from which chicle gum and castor oil is obtained

182. Give botanical name of any two pulses.
183. Enlight any two medicinal plant species.
184. Name the families of *Hibiscus rosasinensis* and *Citrus lemon*.
185. Name the families of *Acacia nilotica* and *Clitoria ternate*.
186. Name the families of *Callistemon lanceolata* and *Ixora coccinia*
187. Name the families of *Nerium indicum* and *Capsicum annum*.
188. Name the families of *Mentha viridis* and *Jatropha gossypifolia*.
189. Name the families of *Gloriosa superba* and *Commelina benghalensis*.
190. Give the botanical source of Chicle gum and Arabica gum.
191. Give the botanical source of Castor and nicotine
192. Give the botanical source of Paper mint & Azadieractine
193. Name any two plant species used as biopesticides.

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#### Question of 03 Marks (43 Questions)

36. What is alternation of generation ? Explain.
37. Describe stomatal diversity in Angiosperms.
38. Describe trichome diversity in Angiosperms.
39. What are the aims of Taxonomy ?
40. Taxonomy and Systematic are synonyms. Explain.
41. How taxonomy plays role in identification? Explain.
42. How taxonomy plays role in nomenclature? Explain.
43. How taxonomy plays role in classification? Explain.
44. Mention the ranks of classification?
45. Give outline of Bentham & Hooker's system of classification upto series w.r.t. Polypetalae
46. Give outline of Bentham and Hooker's system of classification upto series w.r.t. Gamopetalae.
47. Give outline of Bentham and Hooker's system of classification upto series w.r.t. monochlamydae.
48. Give outline of Bentham and Hooker's system of classification upto series w.r.t. monocotyledons.
49. Give the economic importance of Annonaceae.

50. Give the economic importance of Malvaceae.
51. Give the economic importance of Rutaceae.
52. Give the economic importance of Meliaceae.
53. Give the economic importance of Mimosaceae.
54. Give the economic importance of Caesalpinaceae.
55. Give the economic importance of Papilionaceae.
56. Give the economic importance of Myrtaceae.
57. Give the economic importance of Rubiaceae.
58. Give the economic importance of Sapotaceae.
59. Give the economic importance of Apocynaceae.
60. Give the economic importance of Solanaceae.
61. Give the economic importance of Labiatae.
62. Give the economic importance of Euphorbiaceae.
63. Give the economic importance of Liliaceae.
64. Give the economic importance of Commelinaceae.
65. Comment on the floral arrangement of Annonaceae.
66. Comment on the floral arrangement of Malvaceae.
67. Comment on the floral arrangement of Papilionaceae.
68. Comment on the floral arrangement of Solanaceae.
69. Comment on the floral arrangement of Labiatae.
70. Comment on the floral arrangement of Euphorbiaceae.
71. Comment on the floral arrangement of Liliaceae.
72. Describe the types of calyx in Caesalpinaceae and Malvaceae.
73. Describe the type of calyx in Solanaceae and Labiatae.
74. Describe the perianth in Liliaceae.
75. Describe the types of corolla in Papilionaceae.
76. Describe the types of corolla in Solanaceae.
77. Describe the types of corolla in Labiatae.
78. Define and give functions of herbarium.

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### Question of 04 Marks

59. Give outline of Alternation of generation in Angiosperms.
60. Describe diversity of Angiosperm w.r.t. form.
61. Describe diversity of Angiosperm w.r.t. structure.
62. Describe diversity of Angiosperm w.r.t function.
63. Describe heterotrophic mode of nutrition in Angiosperms.
64. What are the functions of Taxonomy? Explain.
65. Define taxonomy. Give its role in identification.
66. Define taxonomy. Give its role in nomenclature.
67. Define taxonomy. Give its role in classification.
68. Describe in brief the history of Bentham and Hookers Classification.
69. Describe binomial nomenclature.
70. Compare Artificial, Natural and Phylogenetic systems of Classification.
71. Describe Merits of Bentham and Hooker's System of classification?
72. Describe Demerits of Bentham and Hooker's system of Classification ?
73. Give systematic position and distinguishing features of Annonaceae.
74. Give systematic position and distinguishing features of Malvaceae.
75. Give systematic position and distinguishing features of Rutaceae.
76. Give systematic position and distinguishing features of Meliaceae.
77. Give systematic position and distinguishing features of Mimosaceae.
78. Give systematic position and distinguishing features of Caesalpinaceae.
79. Give systematic position and distinguishing features of Papilionaceae.
80. Give systematic position and distinguishing features of Myrtaceae.
81. Give systematic position and distinguishing features of Rubiaceae.
82. Give systematic position and distinguishing features of Sapotaceae.
83. Give systematic position and distinguishing features of Apocynaceae.
84. Give systematic position and distinguishing features of Solanaceae.
85. Give systematic position and distinguishing features of Labiatae.
86. Give systematic position and distinguishing features of Euphorbiaceae.
87. Give systematic position and distinguishing features of Liliaceae.
88. Give systematic position and distinguishing features of Commelinaceae.

89. Sketch label and describe the inflorescence of Labiatae.
90. Sketch label and describe the inflorescence of Euphorbia.
91. Describe type of fruits in Annonaceae and Mimosaceae.
92. Describe type of fruits in Caesalpinaceae and Papilionaceae.
93. Describe type of fruits in Apocynaceae and Solanaceae.
94. Describe type of fruits in Labiatae and Euphorbiaceae.
95. Give morphological characters of Anonaceae.
96. Give morphological characters of Malvaceae.
97. Give morphological characters of Rutaceae.
98. Give morphological characters of Meliaceae.
99. Give morphological characters of Mimosaceae.
100. Give morphological characters of Caesalpinaceae.
101. Give morphological characters of Papilionaceae.
102. Give morphological characters of Myrtaceae.
103. Give morphological characters of Rubiaceae.
104. Give morphological characters of Sapotaceae.
105. Give morphological characters of Apocynaceae.
106. Give morphological characters of Solanaceae.
107. Give morphological characters of Labiatae.
108. Give morphological characters of Euphorbiaceae.
109. Give morphological characters of Liliaceae.
110. Give morphological characters of Commelinaceae.
111. Give morphological characters of Annonaceae.
112. Define herbarium and Give its functions in taxonomy.
113. Describe herbarium techniques in brief.
114. Comment on morphological peculiarities of Commelinaceae.
115. Comment on morphological peculiarities of Euphorbiaceae.
116. Describe flower of Papilionaceae and Labiatae.
117. Give systematic position and economic importance of *Anona reticulata* and *Cajanus cajan*.
118. Give systematic position and economic importance of *Catharanthus roseus* and *Withania somnifera*.

119. Give systematic position and economic importance of *Mentha viridis* and *Allium cepa*.
120. Compare Apocynaceae with Solanaceae.
121. Compare Rutaceae and Myrtaceae.
122. Compare Liliaceae and Commelinaceae.
123. Give medicinal uses of Apocynaceae and Solanaceae.
124. Give medicinal uses of Labiatae and Liliaceae.
125. Give Economic Importance of Papilionaceae.
126. Give Economic Importance of Rubiaceae.
127. Give Economic Importance of Sapotaceae.
128. Give Economic Importance of Apocynaceae.
129. Give Economic Importance of Solanaceae.
130. Give Economic Importance of Labiatae.
131. Give Economic Importance of Euphorbiaceae.
132. Give Economic Importance of Liliaceae.

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**Question of 06 Marks (26 Questions)**

24. Give distinguishing features of Angiosperms.
25. Explain evolutionary status of Angiosperms.
26. What are functions of Taxonomy ? Describe.
27. Give outline classification of Bentham and Hooker's System upto series.
28. Discuss Merits and Demerits of Bentham and Hookers system of Classification.
29. Give salient features and economic importance of Annonaceae.
30. Give salient features and economic importance of Malvaceae.
31. Give salient features and economic importance of Rutaceae.
32. Give distinguishing features and economic importance of Meliaceae.
33. Give distinguishing features and economic importance of Mimosaceae.
34. Give distinguishing features and economic importance of Caesalpiniaceae.
35. Give distinguishing features and economic importance of Papilionaceae.
36. Give distinguishing features and economic importance of Myrtaceae.
37. Give distinguishing features and economic importance of Rubiaceae.
38. Give salient features and economic importance of Sapotaceae.

39. Give salient features and economic importance of Apocynaceae.
40. Give salient features and economic importance of Solanaceae.
41. Give salient features and economic importance of Labiatae.
42. Give salient features and economic importance of Euphorbiaceae.
43. Give salient features and economic importance of Liliaceae.
44. Give salient features and economic importance of Commelinaceae.
45. Distinguish between Papilionaceae, Caesalpiniaceae and Mimosaceae.
46. Distinguish between Solanaceae and Apocynaceae.
47. Distinguish between Liliaceae and Commelinaceae.
48. Discuss Evolutionary trends in Angiosperms.
49. What is herbarium ? Describe various techniques of herbarium.

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**QUESTION BANK**  
**BOT-222 : S.Y.B.Sc. (BOTANY)**  
**SEM-II – HORTICULTURE**

**Question of 2 Marks (100 Questions)**

194. Define Horticulture.
195. Enlist different disciplines of horticulture.
196. Define pomology.
197. Define olericulture.
198. Define floriculture.
199. Define ornamental and landscape gardening.
200. Define plant propagation.
201. Define asexual propagation.
202. Define sexual propagation.
203. Define runner, give one example.
204. Define corm, give one example.
205. What is sucker. Give one example.
206. What is bulb. Give one example.
207. Sketch, label and describe tunicated bulb.
208. Sketch, label and describe tuber bulb.
209. Sketch, label and describe scaly bulb.
210. Define offset. Give example.
211. Define stolen. Give example.
212. Define cutting.
213. What is leaf cutting ?
214. What is stem cutting ?
215. What is root cutting ?
216. Define layering.
217. Enlist different types of layering.
218. Define simple layering.
219. Define compound layering
220. Define suspension layering

221. Mention the examples of air layering.
222. Define grafting.
223. Define whip grafting.
224. What is tongue grafting.
225. Define stock.
226. Define scion.
227. Define budding.
228. Enlist methods of budding.
229. Define training.
230. Define pruning.
231. Define bahar.
232. Define Ambe-bahar.
233. Define Mrig-bahar.
234. Define Hasth-bahar.
235. Enlist type of Bahar.
236. What is green house ?
237. What is polyhouse ?
238. Describe any two uses of greenhouse.
239. Describe any two uses of polyhouse.
240. Give commercial varieties of Brinjal.
241. Give commercial varieties of Banana.
242. Marketing of Brinjal.
243. Marketing process of Banana.
244. Mention one disease of Brinjal.
245. Mention one disease of Banana.
246. Give climatic conditions for Brinjal.
247. Give climatic conditions for Banana.
248. Mention one pest of Brinjal.
249. Mention one pest of Banana.
250. What is Preservation ?
251. What is temporary preservation of fruits and vegetables ?
252. What is permanent preservation of fruits and vegetables ?

253. Define Asepsis.
254. Define Pasteurization
255. Give use of antiseptic in preservation
256. Give role of low temperature in preservation
257. What is sterilization ?
258. Give use of sugar in preservation
259. Give use of salt in preservation
260. Give use of vinegar in preservation
261. Enlist chemicals for preservation of fruits and vegetables.
262. What is sun-drying ?
263. What are commercial dehydrates?
264. What is ionizing radiations?
265. What is fruit jam?
266. What is mix fruit jam?
267. What is jelly?
268. What is squash?
269. What is Ready To Serve (RTS) ?
270. Enlist the constituents of jam
271. Enlist the constituents of Jelly.
272. Enlist the constituents of Squash
273. Name the preservatives for jam.
274. Name the preservatives for jelly.
275. Name the preservatives for squash.
276. What is set point?
277. Enlist methods of set points.
278. Give any one method of set point.
279. Give use of vinegar in preservation.
280. What is bottling?
281. What is scanning?
282. What is cold storage?
283. What is deep freezing?
284. Enlist the acids for sterilization.

285. Explain propagation in bryophyllum.
286. Mention role of moss in gootte.
287. Give the example of patch budding.
288. Mention the example of 'T' budding.
289. What is apogamy ?
290. What is polyembryony?
291. What is bulbil?
292. What is hearbaceous stem cutting?
293. What is the latin meaning of "hartus"?

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### **Question of 3 Marks (40 Questions)**

1. Describe the historical background of Horticulture.
2. Merits of Sexual Propagation.
3. Demerits of Sexual propagation.
4. Merits of Asexual propagation.
5. Demerits of Asexual propagation.
6. What is softwood cutting ? Give its importance.
7. What is hardwood cutting ? Give its importance.
8. Define leaf cutting. Give its importance in plant propagation.
9. What is root cutting ? Give examples of root cuttings (any two)
10. Give method of simple layering.
11. Give method of compound layering.
12. Describe serpentine layering.
13. Sketch and label whip grafting. Mention it's importance.
14. Sketch and label Wedge grafting. Mention it's importance.
15. Sketch and label Tongue grafting. Mention it's importance.
16. Describe 'T' shaped budding.
17. Describe Patch budding.
18. Give the objectives of training.
19. Give the objectives of pruning.

20. Enlist the advantages of training.
21. Enlist the advantages of pruning.
22. Explain Ambe Bahar.
23. Explain in brief Mrig Bahar.
24. Explain Hasth Bahar
25. Give importance of Bahar treatment.
26. What is principle of Bahar treatment?.
27. Give significance of Bahar treatment.
28. Enlist steps of Bahar treatment.
29. Give importance of green house.
30. Give scope of Green house.
31. Give pest and disease management of Brinjal.
32. Give pest and disease management of Banana.
33. Give the type of soil for cultivation of Brinjal.
34. Give the type of soil for cultivation of Banana.
35. Give principles of fruits and vegetable preservation.
36. Give various methods of drying for preservation of fruits and vegetables.
37. Describes the method of preparation of mix fruit jam.
38. Describe the method of preparation of jelly.
39. Describe the method of preparation of squash.
40. Describe the method of preparation of tomato ketch-up.
41. Give the importance of fruit preservation.

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#### **Question of 4 Marks (70 Questions)**

1. Give nutritive value of fruits and vegetables.
2. Write about the export potential of horticultural crops and products in India.
3. Explain the sexual propagation of plants and give it's merits.
4. Define the asexual or vegetative propagation of plants and give it's demerits.
5. Write a note on different disciplines of horticulture.
6. Define stem cutting. Describe any one type of hard wood cutting.

7. Describe softwood cutting.
8. Describe leaf cutting.
9. Write a note on stem cutting.
10. What is layering ? Describe simple layering.
11. Explain air layering or Gootee with suitable examples.
12. What is Grafting? Describe whip Grafting with suitable examples.
13. What is Grafting? Describe wedge grafting with suitable examples.
14. What is tongue grafting? Explain with suitable examples.
15. What is budding? Describe 'T' shape budding.
16. What is patch budding ? Explain with suitable examples.
17. Differentiate between training and pruning.
18. Give advantages of training and pruning.
19. Give training and it's objectives.
20. Define pruning and give it's objectives.
21. What is Ambe Bahar? Give principle and importance.
22. What is Mrig Bahar? Give principle and importance.
23. What is Hasta Bahar ? Give principle and importance.
24. What is Bahar treatment ? Give importance and principles.
25. Give scope and importance of green house technology.
26. What is the role of green house in horticulture ?
27. What is the role of polyhouse in horticulture ?
28. What is the difference between Green house and polyhouse ?
29. Give commercial varieties of Brinjal.
30. Give commercial varieties of Banana.
31. Give climatic conditions for growing of Brinjal.
32. Give climatic conditions for growing of Banana.
33. Give cultivation practices for Banana.
34. Give cultivation practices for Brinjal.
35. Give the harvesting methods of Banana.
36. Give the harvesting methods of Brinjal.
37. Describe different methods of marketing for Banana.
38. Describe different methods of marketing for Brinjal.

39. What is preservation? Describe scope and importance.
40. What is temporary preservation? Describe any two methods of temporary preservation.
41. What is permanent preservation? Describe any two methods of permanent preservation.
42. Describe role of ionizing radiation in permanent preservation.
43. Explain various methods of sterilization in fruit and vegetable preservation.
44. Describe role of different chemicals in permanent fruit preservation.
45. Describe different methods of drying for permanent fruit preservation.
46. Describe the preparation of mix fruit jam.
47. Describe the preparation of wood apple or guava jelly.
48. Describe the preparation of lemon/orange squash.
49. Describe the method of preparation of ready to serve (RTS).
50. Write about the major pests and diseases of brinjal and their control measures.
51. Write about the major pests and diseases of Banana and their control.
52. Enlist the ingredients for preparation of mix fruit jam.
53. Enlist the ingredients for making wood apple or guava jelly.
54. Enlist the ingredients for the preparation of Tomato Ketchup.
55. Give historical background of Horticulture.
56. Give advantages of sexual reproduction.
57. Give disadvantages of sexual reproduction
58. Give advantages of asexual reproduction.
59. Give disadvantages of asexual reproduction
60. Differentiate between simple and compound layering.
61. Differentiate between simple and air layering
62. Differentiate between whip and wedge grafting
63. Differentiate between T shape budding and Patch budding.
64. Differentiate between training and pruning.
65. Differentiate between Ambe bahar and Mrig bahar
66. Differentiate between green house and polyhouse
67. Differentiate between sterilization and pasteurization

68. Differentiate between temporary and permanent preservation
69. Give nutritive and medicinal value of fruit and vegetables.

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### **Question of 6 Marks (25 Questions)**

1. What is horticulture ? Give scope and importance of horticulture. Mention branches of horticulture in brief. Comment on its export and import potential.
2. Define sexual propagation. Give advantages and disadvantages of sexual propagation.
3. Define asexual propagation. Describe various methods of asexual propagation in brief (Any four)
4. What is cutting ? Describe any two methods of cutting.
5. What is layering? Describe any two methods of layering.
6. What is grafting ? Describe any two methods of grafting.
7. What is budding? Describe methods of budding.
8. "Training and Pruning are one of the most important and essential horticultural practices" – comment.
9. What is training? Give objectives and mention advantages of training.
10. What is pruning? Give objectives and mention advantages of pruning.
11. Define training and pruning. Give the differences between training and pruning.
12. What is bahar? Describe any two types of bahar treatment. Mention its importance. Give steps in bahar treatment.
13. Give definition, scope and importance of green house and polyhouse in horticulture.
14. Explain role of green house and polyhouse in horticulture.
15. Give production technology of Brinjal w.r.t. (i) Climate and Soil, (ii) Cultivation practices, (iii) Harvesting and marketing.
16. Given production technology of Banana w.r.t. (i) Climate and Soil, (ii) Cultural Practices, (iii) Harvesting and Marketing.

17. Give commercial varieties of Brinjal and Banana. Add a note on its pest and disease management.
18. Describe the process of Mix Fruit Jam.
19. Describe the process of wood apple or guava jelly.
20. Describe the process of orange squash.
21. What is preservation of fruits and vegetables? Give scope, importance and principles of preservation.
22. Describe method of preservation of fruits and vegetables. Describe any four methods of temporary preservation.
23. Describe methods of preservation of fruits and vegetables. Describe method of permanent preservation.
24. What is the difference between jam and jelly? Give method of preparation of jam.
25. What is the difference between jam and jelly? Give method of preservation of jelly.

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