Important questions and their answers

M.Sc. II Semester

Botany

Paper – IV Plant Morphology, Anatomy and Embryology

1. The term apical meristem refers to- **A group of meristematic cells at the apex of shoot and root**
2. Histogen theory was proposed by – **Hanstein**
3. Tunica carpus theory was given by – **Schmidt**
4. The Tunica layer gives rise to – **Epidermis only**
5. Root apical meristem is best explained by – **Histogen theory**
6. Tunica Carpus theory best explains the apical meristem of - **Angiosperms**
7. The Apical shoot meristem of Angiosperms consists of – **Tunica, Carpus and leaf primordium**
8. Radial zonation of shoot apex is found in – **Gymnosperms**
9. Apical cell theory best explains the development in – **Cryptogams**
10. Korper Kappe thory was given by – **Schupp**
11. Korper Kappe thory is related with – **Root apical meristem**
12. According the Korper Kappe thory the upright T-shaped division is found in – **Root cap region**
13. In roots, mitotically and metabolically inactive cells that are positioned just behind the root cap are called as – **Quiescent center**
14. Single celled laticifers are called as – **Non-articulated laticifer**
15. In Rubber (*Haevea brasiliensis*) the type of laticifers are – **Articulated laticifer**
16. In Paper somniferum the laticifers are – **Non articulated type**
17. Stomata are absent in family – **Balanophoraceae**
18. Dumbell shaped stomata are found in – **Members of family Poaceae**
19. Whent the subsidiary or neighboring cells have a common origin with the guard cells such type of stomata ontogeny is called as – **Mesogenous development**
20. Classification of stomata was first given by – **Metcalfe and Chalk (1950)**
21. In Caryophyllaceae the stomata are – **Diacytic**
22. Trichomes are the structures which are exclusively made up of – **Epidermis only**
23. Salt secreting trichomes are found in – ***Artiplex***
24. The tapetum in which radial walls breakdown early are called as – **Amoeboid tapetum**

25. Ubisch bodies are found in – **Glandular tapetum**

26. Successive type of microsporogenesis is found in – **Monocots**

27. Pollinium are found in family – **Asclepiadaceae and Orchidaceae**

28. Male gametophyte in angiosperms consists of **– Pollen grains, pollen tube, tube nucleus and two male nuclei.**

29. Pollen grains of angiosperms are – **Partially developed male gametophyte**

30. Development of lateral roots is – **Endogenous**

31. The tissue which is involved in development of lateral roots is – **Pericycle**

32. The use of tree ring records to decode Earth's climate history is called – **Dendroclimatology**

33. The use of annual rings to ascertain the tree life is called – **Dendrochronology**

34. Annual rings are more prominent in trees having – **Distinct Seasonal variations**

35. Wood without xylem vessels are called as – **Soft wood**

36. The porous wood of angiosperms is called as – **Hard wood**

37. Durable part of the wood is called as – **Heartwood**

34. Pollen embryoids were first developed by – **Guha and Maheshwari**

35. The most common type of embryosac in Angiosperms is – **Polygonum type**

36. Egg cell without synergids is found in embryosac of – **Plumbagella type**

37. The most primitive type of ovule is found in – **Orthrotropus**

38. Nucellus and embryosac both are curved in – **Amphitropus ovule**

39. Formation of 8-nucleate embryosac by pollen grains is also called as – **Nemec phenomenon**

40. During microsporogenesis, successive type of cell division is found in – **Monocots**

41. In Angiosperms, during pollination, the pollen grains are mostly – **Bicellular**

42. Pollenkitt is secreted by – **Cells of tapetum**

43. Before, germination of pollen, the moisture necessary for pollen hydration is provided by – **Stigma**

44. Flowers which never open are called as – **Cliestogamous flowers**

45. Cliestogamous flowers are found in – ***Commelina***

46. The pollination between two different flowers present on same plant is called as – **Geitonogamy**

47. When anther and stigma mature at different time, this phenomenon is called as – **Dichogamy**

48. Heterostyly is an adaptation of - Cross pollination

49. Very long pollen with needle shaped structures are found in – ***Zostera***

50. Ephydrophily is found in – ***Vallisnaria***

51. Inconspicuous flowers, which produce enormous number of pollens are characteristic feature of – **Wind pollination.**

52. Among all insects the maximum number of enteromphily is done by – **Honey bees**

53. Pollination through the agency of bats is called as – **Chieropterophily**

54. Bird pollinated flowers are rich in – **Nector**

55. Soft wood is found in – **Gymnospersms**

56. Double fertilization in Angiosperms was discovered by – **Nawaschin**

57. In double fertilization, the two male nuclei fuse with – **Egg cell and Definitive nucleus**

58. Helobial development of endosperms is found in **– Monocots**

59. In cereals, the layer containing specialized cells filled with starch are called **– Aleuron layer**

60. Cells of aleurone layer function for **– hydrolyzing the food material of seeds**

61. Nutmeg is an example of **– Ruminate endosperm**

62. Effect of pollen grains on the properties of endosperms is called as **– Xenia**

63. Metaxenia is **– Effect of pollen grains on structure of maternal tissue of seeds.**

64. When embryosac receives two or more than two pollen tubes the sperm nucleus fusing with the egg nucleus may be derived from one pollen tube and one fusing with the polar nuclei may be derived from other pollen tube, the phenomenon is termed as – **Heterofertilization**

65. When multiple embryo develop from different embryosac it is called as – **False polyembryony**

66. When polyembryony is due to activation of some sporophytic cells of ovule, it is called as – **Adventive polyembryony**

67. The chemicals which induce artificial polyembryony are – **2,4 D; 2,4,5, T, and NAA**

68. The process where, plants are propagated by seeds, but the embryo is formed by the process in which normal meiosis and syngamy has been eliminated is called – **Agamospermy**

69. When embryo arises directly from the (2n) sporophytic cells like nucellus or integuments it is called as – **Adventive embryony**

70. When a diploid embryosac is formed from a megaspore mother cell without meiosis, it is called as – **Diplospory**

71. Vegetative propagation is an example of – **Recurrent apomixis**

72 .When the diploid embryosac is formed from the cells of nucellus, it is known as – Apospory

73. When the embryo develops from haploid egg cell without fertilization, the phenomenon is called as – **Haploid parthenogenesis**

74. The process involving emasculation of the flower before anthesis and depositing pollen grains on the cut end of the ovary is called as – **Intra-ovarian pollination**

75. The living cells having thickening at the corners due to deposition of pectin are known as – **Collenchyma cells.**

76. scattered vascular bundles embedded in the ground tissue with no definite arrangement is found in – **Stem of monocots**

78. Presence of two layers of phloem, one above xylem and another below xylem is called as – **Bicollateral arrangement**

79. Inverted cortical vascular bundles are found in – ***Nyctanthes*** **stem**

80. When many islands of phloem embedded in xylem layer due to anomalous activity of cambium are formed such phloems are known as – **Included phloem**

81. Included phloem is found in – ***Salvadora***.

82. Monocots showing secondary growth are **- *Dracaena, Yucca, Cordyline, Agave, Aloe***

83. In *Dracaena*, the cambium arises from the cells of **- parenchyma outside the outermost vascular bundles**

84. In monocots showing secondary growth, the secondary vascular bundles are found embedded in – **Conjunctive tissue**

85. Medullary vascular bundles are found in – ***Boerhaavia*** **and** ***Mirabilis*** **stem**