



CET25B1 SEXUAL REPRODUCTION IN FLOWERING PLANTS

Class 12 - Biology

Time Allowed: 1 hour and 30 minutes

Maximum Marks: 75

1. Which one of the following is not found in a female gametophyte of an angiosperm? [1]
 - a) Filiform apparatus
 - b) Central cell
 - c) Synergids
 - d) Germ pore
2. In a fertilised embryo sac, the haploid, diploid, and triploid structures are: [1]
 - a) Synergid, polar nuclei, and zygote
 - b) Synergid, antipodal, and polar nuclei
 - c) Synergid, zygote, and primary endosperm nucleus
 - d) Antipodal, synergid, and primary endosperm nucleus
3. Continued self-pollination results in inbreeding depression as they: [1]
 - a) Help in evolution
 - b) Produce pure line
 - c) New genes are accumulated
 - d) Mutation is established
4. Which of the following occupies a central position in flower? [1]
 - a) Pistil
 - b) Stamen
 - c) Pedicel
 - d) Sepal
5. Male gametes in angiosperms are formed by the division of: [1]
 - a) Generative cell
 - b) Microspore
 - c) Microspore mother cell
 - d) Vegetative cell
6. The chromosome number of a spore mother cell of an angiosperm is 38. What will be chromosome number of its endosperm cell? [1]
 - a) 38
 - b) 19
 - c) 76
 - d) 57
7. Double fertilization involves: [1]
 - a) Double fertilization
 - b) Syngamy + triple fusion
 - c) Development of antipodal cells
 - d) Single fertilization
8. Eight nucleate embryo sacs are: [1]
 - a) Sometimes monosporic, sometimes bisporic and sometimes tetrasporic.
 - b) Always monosporic
 - c) Always tetrasporic
 - d) Always bisporic
9. In ovule, archesporial cell differentiates from nucleus: [1]

- [illegible]

- c) Help in absorption of water
d) Guiding the entry of pollen tube
20. Monoecious flowers contain: [1]
a) Only male reproductive parts
b) Both male and female reproductive parts
c) Only female reproductive parts
d) Either male or female reproductive parts
21. The outermost and innermost wall layers of microsporangium in an anther are respectively: [1]
a) Endothecium and tapetum
b) Epidermis and middle layer
c) Epidermis and endodermis
d) Epidermis and tapetum
22. Ruminant endosperm is found in: [1]
a) Euphorbiaceae
b) Cruciferae
c) Asteraceae
d) Annonaceae
23. The flower is the site of: [1]
a) Vegetative reproduction
b) Sexual reproduction
c) Artificial reproduction
d) Asexual reproduction
24. The type of pollination involving transfer of pollen grains from anther to the stigma of the same flower is known as: [1]
a) Xenogamy
b) Apogamy
c) Autogamy
d) Geitonogamy
25. During microsporogenesis, meiosis occurs in: [1]
a) Microspore tetrads
b) Endothecium
c) Microspore mother cells
d) Pollen grains.
26. In which of the following kinds of ovules, the embryo sac is horse-shoe shaped? [1]
a) Amphitropous ovule
b) Hemitropous ovule
c) Circinotropous ovule
d) Orthotropous ovule
27. In the embryos of a typical dicot and a grass, true homologous structures are: [1]
a) Coleorhiza and coleoptile
b) Cotyledons and scutellum
c) Coleoptile and scutellum
d) Hypocotyl and radicle
28. Which of these is a condition that makes flowers invariably autogamous? [1]
a) Xenogamy
b) Cleistogamy
c) Self-incompatibility
d) Dioecy
29. Embryos developed from the somatic cells are called: [1]
a) Callus
b) Embryoids
c) Hybrids
d) Cybrids
30. Large stout, nocturnal flowers producing copious nectar and emitting fermenting fruity odour are adaptations for [1]
a) Chiropterophily
b) Ornithophily
c) Anemophily
d) Entomophily

31. A pollen grain of a large number of species can be stored in: [1]
a) Liquid sulphur dioxide b) Liquid nitrogen
c) Liquid carbon dioxide d) Liquid oxygen

32. Which one is the female gametophyte? [1]
a) Egg b) Embryo sac
c) Antipodal cells d) Embryo

33. Which nocturnal animals can transport pollen over a long distances? [1]
a) Cat b) Bat
c) Owl d) Frog

34. A bilobed ditheous anther had 50 microspore mother cells per microsporangium. How many male gametes this anther can produce: [1]
a) 200 b) 400
c) 800 d) 100

35. Synergids are: [1]
a) Diploid b) Triploid
c) Haploid d) Tetraploid

36. The innermost wall layer of microsporangium is called as: [1]
a) Tapetum b) Inner integuments
c) Endothecium d) Intine

37. Tapetal cells are characterized by: [1]
a) Endomitosis b) Meiotic division
c) Mitotic division d) Endomitosis as well as endopolyploidy

38. A mass of parenchymatous tissue forming the bulk of ovule is called: [1]
a) Endosperm b) Obturator
c) Female gametophyte d) Nucellus

39. Which of the following represents the edible part of fruit of litchi? [1]
a) Pericarp b) Mesocarp
c) Endocarp d) Juicy aril

40. Double fertilization (or triple fusion) leading to initiation of endosperm in angiosperms, requires: [1]
a) Fusion of 4 or more polar nuclei and the second male gamete only. b) Fusion of one polar nucleus and second male gamete only.
c) Fusion of 2 polar nuclei and second male gamete only. d) All the above types of fusions in different types of angiosperms.

41. The Gynoecium of flower having two or more carpel fuse together are called _____. [1]
a) Megacarpous b) Syncarpous

- c) Apocarpous d) Microcarpous
42. Secondary nucleus is formed by: [1]
 a) Two polar nuclei b) Synergids
 c) Egg apparatus d) Antipodal cells
43. The innermost wall layer of microsporangium nourishing the developing pollen grain is known as: [1]
 a) Tapetum b) Endothecium
 c) Endodermis d) Sporogenous tissue
44. A particular species of the plant produces light, non-sticky pollen in large numbers and its stigmas are long and feathery. These modifications facilitate pollination by: [1]
 a) Animals b) Wind
 c) Water d) Insects
45. Which one of the following pairs of plant structures has a haploid number of chromosomes? [1]
 a) Nucellus and antipodal cells b) Megaspore mother cell and antipodal cell
 c) Egg and antipodal cells d) Egg nucleus and secondary nucleus
46. Micropyle occurs in: [1]
 1. Seed
 2. Ovule
 3. Ovary
 4. Stigma
 a) 1 and 3 are correct. b) 1, 2 and 3 are correct.
 c) 1 and 2 are correct. d) 2 and 4 are correct.
47. The process of embryo formation without fertilisation is known as: [1]
 a) Polyembryony b) Apogamy
 c) Parthenocarp d) Apospory
48. The phenomenon wherein, the ovary develops into a fruit without fertilisation is called: [1]
 a) Asexual reproduction b) Sexual reproduction
 c) Apomixis d) Parthenocarp
49. The flower which does not open at all are called: [1]
 a) Cleistogamous flower b) Xenogamous flower
 c) Autogamous flower d) Chasmogamous flower
50. Which of the following plant contain unisexual flower: [1]
 a) Rose b) Papaya
 c) Hibiscus d) Lotus
51. When there is no distinction between sepals and petals, the non-essential floral organs are collectively called _____. [1]

- a) Petaloid
c) Perianth

b) Imbricate
d) Sepaloid

52. Pollen grains are formed inside the: [1]
a) petals
b) Ovary
c) Stigma
d) Anther

53. In a typical complete, bisexual and hypogynous flower the arrangement of floral whorls on the thalamus from the outermost to the innermost is: [1]
a) Calyx, corolla, androecium, and gynoecium
b) Gynoecium, androecium, corolla, and calyx
c) Androecium, gynoecium, corolla, and calyx
d) Calyx, corolla, gynoecium, and androecium

54. Transfer of pollen grain from the anther of one flower to the stigma of another flower is called cross-pollination. It produces [1]
a) Better progeny
b) Male progeny
c) Weaker progeny
d) Similar progeny

55. From among the situations given below, choose the one that prevents both autogamy and geitonogamy. [1]
a) Monoecious plant bearing unisexual flowers.
b) Monoecious plant with bisexual flowers.
c) Dioecious plant with bisexual flowers.
d) Dioecious plant bearing only male or female flowers.

56. Vegetative fertilization is also called as: [1]
a) Triple fusion
b) True fertilization
c) Syngamy
d) Generative fertilization

57. Which of the following plant is not pollinated by the means of water? [1]
a) Lotus
b) Vallisneria
c) Zostera
d) Hydrilla

58. The flower is a modified shoot because: [1]
a) Growth is unlimited
b) Growth is limited
c) Floral organs are arranged in whorls
d) Flower develop in the axils of bracts like axillary shoots

59. The type of pollination that brings genetically different types of pollen grains to the stigma of a plant is: [1]
a) Autogamy
b) Xenogamy
c) Chasmogamy
d) Geitonogamy

60. From among the sets of terms given below, identify those that are associated with the gynoecium. [1]
a) Stigma, ovule, embryo sac, placenta
b) Ovule, ovary, embryo sac, tapetum
c) Thalamus, pistil, style, ovule
d) Ovule, stamen, ovary, embryo sac

61. In an embryo sac, the cells that degenerate after fertilization are: [1]

- a) Synergids and antipodals
b) Antipodals and primary endosperm cell
c) Egg and antipodals
d) Synergids and primary endosperm cell
62. Pollination by air is called: [1]
a) Ornithophily
b) Entomophily
c) Aero-spory
d) Anemophily
63. Which one of the following is the correct sequence in the formation of microspore? [1]
a) Sporogenous tissue, microsporangium, microspore tetrad, microspore
b) Microsporangium, sporogenous tissue, microspore tetrad, microspore
c) Microspore tetrad, microsporangium, sporogenous tissue, microspore
d) Sporogenous tissue, microspore tetrad, microsporangium, microspore
64. The entomophilous flower is pollinated by _____. [1]
a) Birds
b) Wind
c) Bats
d) Insects
65. Self-pollination is fully ensured if [1]
a) the flower is cleistogamous.
b) the style is longer than the filament.
c) the time of pistil and anther maturity is different.
d) the flower is bisexual.
66. The phenomenon involved in the formation of female gametophyte is known as: [1]
a) Hydrolysis
b) Megasporogenesis
c) Multisporogenesis
d) Microsporogenesis
67. A typical embryo sac is 8-nucleate and: [1]
a) seven celled
b) Four celled
c) Eight celled
d) single celled
68. Which one of the following is surrounded by a callose wall? [1]
a) Male gamete
b) Microspore mother cell
c) Egg
d) Pollen grain
69. Starting from the innermost part, the correct sequence of parts in an ovule are: [1]
a) egg, integument, embryo sac, nucellus.
b) egg, embryo sac, nucellus, integument
c) embryo sac, nucellus, integument, egg
d) egg, nucellus, embryo sac, integument
70. The nucellus is found in: [1]
a) Leaf
b) Ovule
c) Cell
d) Pollen
71. Cucurbits are monoecious plants as [1]
a) they produce only male flowers on the same plant.
b) they produce both male and female flowers on the same plant.

- c) they produce bisexual flowers. d) they produce only female flowers on the same plant.
72. A typical angiospermic embryo sac at maturity is: [1]
a) 4 nucleate -2 celled b) 4 nucleate -4 celled
c) 8 nucleate -7 celled d) 8 nucleate -4 celled
73. The egg apparatus of angiosperm comprises: [1]
a) An egg cell and two antipodals. b) An egg cell and two synergids.
c) An egg cell and two polar nuclei. d) An egg cell and the central cell.
74. In a flower, if the megaspore mother cell forms megaspores without undergoing meiosis and if one of the megaspores develops into an embryo sac, its nuclei would be: [1]
a) A few haploid and a few diploid b) Haploid
c) With varying ploidy d) Diploid
75. Sporopollenin is present in: [1]
a) Carpel b) Both Exine and Intine
c) Intine d) Exine