SEMESTER IV
S.Y.B.Sc. Botany CBCS Pattern
(Semester IV, Paper I) 2020-2021
BO 241: Plant Anatomy and Embryology
Term – II
MCQ For Exam

1.Which one of the following is mismatched?

(a) Gynoecium - female reproductive organ (b) Tapetum - one of the layer of anther wall

(c) Anther- fertile part of stamen (d) Pollen grain-diploid

2.A heterosporous plant:

(a) Produces microspores and megaspores (b) Produces only microspores

(c) Produces only megaspores (d) None

3.Microspore develops into a:

(b) Polar nuclei (b) Female gametophye

(c) Male gametophyte (d) Embryo

4.The site of formation of pollen grains is in the:

(c) Pistil (b) Petal

(c) Stamen (d) Stigma

5. Sporophyte is:

(a) Haploid (b) Diploid

(c) May be haploid (d) May be diploid

6. A microspore mother cell is located in the:

(a) Anther (b) Filament

(c) Style (d) Stigma

7. Pollen grains are shed at 2-celled stage, represented by:

(a) Tube cell + vegetative cell (b) Tube cell + generative cell

(c) Tube cell + male gamete (d) None

8. Last cell of sporophytic generation or sporophyte:

(a) Embryo (b) Zygote

(c) Spore (d) Spore mother cell

9. Ovule is also known as:

(a) Megasporangium (b) Microsporangium

(c) Embryo sac (d) Endosperm

10. Stalk by which ovule is attached to the placenta is:

(a) Hilum (b) Funiculus

(c) Style (d) None

11. Another name for female gametophyte is :

(a) Megasporangium (b) Embryo sac

(c) Endosperm (d) Nucellus

12. Orthotropous ovule is also known as :

(a) Hemitropous (b) Anatropous

(c) Orthotropous (d) Atropous

14. Linear tetrad is formed by two meiotic divisions in MMC. Both the divisions are:

(a) First division is transverse, second is vertical

(b) First division is vertical, second is transverse

(c) First division is transverse, second is also transverse

(d) May be any type.

15.Which cell in the embryo sac represent the female gamete:

(a) Egg cell (b) Egg apparatus

(c) Synergids (d) Polar nuclei

16.Female gametophyte is 7-celled in 8 nucleate structure in:

(a) Peperomia type (b) Polygonum type

(c) Oenothera type (d) None of these

17.Secondary nucleus in the embryo sac is:

(a) Triploid (b) Haploid

(c) Diploid (d) Absent

18.The product of fusion of two polar nuclei is:

(a) Zygote (b) Oosphere

(c) Embryo sac (d) Secondary nucleus

19.Which one of the following is the example of monosporic type of embryo sac:

(a) Polygonum type (b) Allium type

(c) Endymion type (d) Peperomia type

20.Which one of the following is the example of bisporic type of embryo sac

(a) Polygonum type (b) Allium type

(c) Oenothera type (d) Peperomia type

21.Which one of the following is the example of tetrasporic type of embryo sac:

(a) Polygonum type (b) Allium type

(c) Endymion type (d) Peperomia type

22. Cork is formed from:

(a) Cork cambium (phellogen)

(b) Vascular cambium

(c) Phloem

(d) Xylem

23. Vascular cambium produces:

(a) Primary xylem and primary phloem

(b) Secondary xylem and secondary phloem

(c) Primary xylem and secondary phloem

(d) Secondary xylem and primary phloem

24. A bicollateral vascular bundle is characterized by:

(a) Phloem being sandwiched between xylem

(b) Transverse splitting of vascular bundle

(c) Longitudinal splitting of vascular bundle

(d) Xylem being sandwiched between phloem

25. Abnormal/anomalous secondary growth occurs in:

(a) Dracaena

(b) Ginger

(c) Wheat

(d) Sunflower

26. Periderm is produced by:

(a) Vascular cambium

(b) Fascicular cambium

(c) Phellogen

(d) Intrafascicular cambium.

27. Casparian strip occurs in a:

(a) Endodermis

(b) Exodermis

(c) Pericycle

(d) Epidermis.

28. Vascular bundles in a dicot stem are :

(a) Open, collateral, exarch

(b) Closed, collateral, endarch

(c) Closed, collateral, exarch

(d) Open, collateral, endarch

29. Annual rings are distinct in plants growing in :

(a) Temperate regions

(b) Tropical regions

(c) Grasslands

(d) Arctic region

30. The lateral roots generally originate in :

(a) Cork cambium

(b) Cortex

(c) Pericycle cells lying against protoxylem

(d) Endodermal cells lying against protoxylem

31. The best method to determine the age of tree is:

(a) To count the number of leaves

(b) To count the number of annual rings

(c) To measure it‟s diameter

(d) To find out the number of branches

32. The bark of a tree comprises:

(a) All the tissues outside the cork cambium

(b) All the tissues outside the vascular cambium

(c) Only the cork

(d) Just inside the cork cambium

33. Which of the following give rise to the cork tissue?

(a) Phellogen

(b) Periblem

(c) Periderm

(d) Phelloderm

34. Ovule is also known as:

(a) Megasporangium

(b) Microsporangium

(c) Embryo sac

(d) Endosperm

35. Stalk by which ovule is attached to the placenta is:

(a) Hilum

(b) Funiculus

(c) Style

(d) None

36. Another name for female gametophyte is :

(a) Megasporangium

(b) Embryo sac

(c) Endosperm

(d) Nucellus

37. Orthotropous ovule is also known as :

(a) Hemitropous

(b) Anatropous

(c) Orthotropous

(d) Atropous

38. Tenuinucellate and crassinucellate are the types of:

(a) Spores

(b) Tetrad

(c) Ovule

(d) Endosperm

39. Linear tetrad is formed by two meiotic divisions in MMC. Both the divisions are:

(a) First division is transverse, second is vertical

(b) First division is vertical, second is transverse

(c) First division is transverse, second is also transverse

(d) May be any type.

40. Which cell in the embryo sac represent the female gamete:

(a) Egg cell

(b) Egg apparatus

(c) Synergids

(d) Polar nuclei

41. Female gametophyte is 7-celled in 8 nucleate structure in:

(a) Peperomia type

(b) Polygonum type

(c) Oenothera type

(d) None of these

42. Secondary nucleus in the embryo sac is:

(a) Triploid

(b) Haploid

(c) Diploid

(d) Absent

43. The product of fusion of two polar nuclei is:

(a) Zygote

(b) Oosphere

(c) Embryo sac

(d) Secondary nucleus

44. Which one of the following is the example of monosporic type of embryo sac:

(a) Polygonum type

(b) Allium type

(c) Endymion type

(d) Peperomia type

45. Which one of the following is the example of bisporic type of embryo sac

(a) Polygonum type

(b) Allium type

(c) Oenothera type

(d) Peperomia type

46. Which one of the following is the example of tetrasporic type of embryo sac:

(a) Polygonum type

(b) Allium type

(c) Endymion type

(d) Peperomia type

47. Entry of pollen tube into the ovule through micropyle is called:

(a) Chalazogamy

(b) Porogamy

(c) Mesogamy

(d) None

48. Entry of pollen tube into the ovule through the chalazal end is called:

(a) Chalazogamy

(b) Porogamy

(c) Mesogamy

(d) None

49. Entry of pollen tube into the ovule through the funiculus or integuments is called :

(a) Chalazogamy

(b) Porogamy

(c) Mesogamy

(d) None

50. Product of syngamy is:

(a) Zygote

(b) Oosphere

(c) Primary endosperm nucleus

(d) Embryo

51. Product of triple fusion is:

(a) Zygote

(b) Oosphere

(c) Primary endosperm nucleus

(d) Embryo

52. Zygote develops into:

(a) Endosoerm

(b) Polar nuclei

(c) Embryo

(d) Egg

53. Endosperm is formed from:

(a) Primary endosperm nucleus

(b) Secondary nucleus

(c) Egg

(d) Embryo

54. Two- celled proembryo has:

(a) Apical cell and terminal cell

(b) Suspensor cells only

(c) Spore cells

d) Basal cell and terminal cell

55. In dicots embryo development, the hypophysis is formed from:

(a) Terminal cell

(b) Embryo cell

(c) Suspensor cell

(d) None

56. The development of several embryos within the same ovule is known as:

(a) Embryony

(b) Polyembryony

(c) Both

(d) None

57. Double fertilization in flowering plants produces:

(a) Diploid oosphere and diploid endosperm

(b) Diploid zygote and triploid endosperm

(c) Diploid zygote and triploid oosphere

(d) Diploid endosperm and triploid zygote

58. Endosperm:

(a) Provide nutrient to the embryo

(b) First cell of male gametophyte

(c) Produced by syngamy

(d) Product of meiosis in microspore mother cell

59.Male gametophyte of angiosperms/monocots is

(a) microsporangium

(b) nucellus

(c) microspore

(d) stamen.

60.Female gametophyte of angiosperms is represented by

(a) ovule

(b) megaspore mother cell

(c) embryo sac

(d) nucellus.

61.. Entry of pollen tube through micropyle is

(a) chalazogamy

(b) mesogamy

(c) porogamy

(d) pseudogamy

62. Embryo sac occurs in

(a) embryo

(b) axis part of embryo

(c) ovule

(d) endosperm.

63. Which of the following pair have haploid structures?

(a) nucellus and antipodal cells

(b) antipodal cells and egg cell

(c) antipodal cells and megaspore mother cell

(d) nucellus and primary endosperm nucleus

64. Point out the odd one

(a) nucellus

(b) embryo sac

(c) micropyle

(d) pollen grain

65. Syngamy means

(a) fusion of gametes

(b) fusion of cytoplasms

(c) fusion of two similar spores

(d) fusion of two dissimilar spores.

66. Double fertilization is fusion of

(a) two eggs

(b) two eggs and polar nuclei with pollen nuclei

(c) one male gamete with egg and other with synergid

(d) one male gamete with egg and other with secondary nucleus.

67. Ovule is straight with funiculus, embryo sac, chalaza and micropyle lying on one straight line. It is

(a) orthotropous

(b) anatropous

(c) campylotropous

(d) amphitropous.

68. Double fertilization is characteristic of

(a) angiosperms

(b) anatropous

(c) gymnosperms

(d) bryophytes.

69. Embryo sac represents

(a) megaspore

(b) megagametophyte

(c) megasporophyll

(d) megagamete.

70.When pollen of a flower is transferred to the stigma of another flower of the same plant, the pollination is referred to as

(a) autogamy

(b) geitonogamy

(c) xenogamy

(d) allogamy.

71. The role of double fertilization in angiosperms is to produce

(a) cotyledons

(b) endocarp

(c) endosperm

(d) hormones.

72. The embryo in sunflower has

(a) two cotyledons

(b) many cotyledons

(c) no cotyledon

(d) one cotyledon.

73. The endosperm of gymnosperm is

(a) diploid

(b) polyploid

(c) triploid

(d) haploid.

74. Eight nucleated embryo sac is

(a) only monosporic

(b) only bisporic

(c) only tetrasporic

(d) any of these formed during the double

75. Endosperm is fertilization by

(a) two polar nuclei and one male gamete

(b) one polar nuclei and one male gamete

(c) ovum and male gamete

(d) two polar nuclei and two male gametes.

76. What is the direction of micropyle in anatropous ovule?

(a) upward

(b) downward

(c) right

(d) left.

77. In angiosperm all the four microspores of tetrad are covered by a layer which is formed by

(a) pectocellulose

(b) callose

(c) cellulose

(d) sporopollenin.

78. An ovule which becomes curved so that the nucellus and embryo sac lie at right angles to the funicle is

(a) hemitropous

(b) campylotropous

(c) anatropous

(d) orthotropous.

79. Male gametes in angiosperms are formed by the division of

(a) generative cell

(b) vegetative cell

(c) microspore mother cell

(d) microspore.

80. In a cereal grain the single cotyledon of embryo is represented by

(a) coleoptile

(b) coleorhiza

(c) scutellum

(d) prophyll

80. Which one of the following represents an ovule, where the embryo sac becomes horse-shoe shaped and the funiculus and micropyle are close to each other?

(a) amphitropous

(b) circinotropous

(c) atropous

(d) antropous.

81 .In angiosperm female gametophyte is:

a) Embryo

b) Egg Apparatus

c)Embryo sac

d) synergids Ans:

c)Embryo sac

82. Exine layer of pollen grain is made up of :

a) sporopollenin

b)Pectin

c) cellulose

d)chitin

83. Embryo sac of angiosperm is :

a) 6-celled 8-nucleate

b) 7-celled 8-nucleate

c)8-celled 7- nucleate

d)7-celled 7-nucleate

84. Microsporogenesis is the formation of :

a) Microspore

b) Megaspore

c) Egg

d) Embryo sac

85 . Pollination by insect is called:

a) Hydrophily

b) Entomophily

c) Anemophily

d) Ornithophilly

86 . Which layer of microsporangium provides nutrition to the developing pollen grains:

a) Epidermis

b) Endothecium

c) Tapetum

d) All

87 . The transfer of pollen grains from anther to stigma is called;

a) Fertilization

b) pollination

c) Microsporogenesis

d) Polyembryony

88 . Occurrence of more than one embryo in a seed is known as:

a) Polyembryony

b) parthenocarpy

c) Apomixis

d) Embryogeny

89 . A typical angiospermic anther is;

a) Bilobed

b) unilobed

c) Trilobed

d) Tetralobed

90.Wind pollination is common in

Orchids

Legumes

Lilies

Grasses

91.Egg apparatus consists of

Egg

Egg and polar nuclei

Egg and synergids

Egg and antipodal cells

92.Fertilization in which male gametes are carried through pollen tube is known as

Porogamy

Syngamy

Siphonogamy

Chalazogamy

93. _____ is the process formation of zygote to an embryo.

a) Fertilization

b) Syngamy

c) Embryogenesis

d) Blastosis

94. The last cell of the suspensor (in dicots) is _____

a) hyperphysis

b) hypophysis

c) haustorium

d) antipodal

95. The first cell of the suspensor (in dicots) functions as a _____

a) hyperphysis

b) hypophysis

c) haustorium

d) antipodal

96. The part of embryonal axis above the level of cotyledons is called ____

a) hypocotyl

b) haustorium

c) hypophysis

d) epicotyls

97. In monocots, _____ grows rapidly.

a) plumule

b) radicle

c) coleorhiza

d) scutellum

98. Lower end of the embryonal axis in monocots is enclosed within _____

a) scutellum
b) coleorhiza
c) plumule
d) radical

99. In double fertilization, one of the products is the zygote, the cell which will form the embryo and ultimately the new plant. What is the other product?

(A) tube

(B) endosperm nucleus

(C) synergids

(D) egg cell

100.The transfer of pollen from the anther to stigma is called

(a) Pollination

(b) Fertilization

(c) Adoption

(d) Diffusion