ALLEN CAREER INSTITUTE KOTA (RAJASTHAN)

path to success

PRE-MEDICAL

BIOLOGY

ENTHUSIAST | LEADER | ACHIEVER

EXERCISE

Sexual reproduction in flowering plants

ENGLISH MEDIUM

EXERCISE-I (Conceptual Questions) — Build Up Your Understanding

MALE AND FEMALE REPRODUCTIVE ORGAN

1. *Capsella* is angiosperm because it possess -
(1) Naked seed
(2) Pollen grain
(3) Vascular tissue
(4) Fruit/Covered seeds
SR0003

2. Which part of the reproductive structure produces both enzyme & hormone
(1) Archesporium (2) Middle layer
(3) Tapetum (4) Endothecium
SR0004

3. Pro-ubisch bodies are produced in
(1) Embryosac (2) Endothecium
(3) Pollen grain (4) Tapetum
SR0005

4. Pollen grain represents
(1) Female gametophytic generation
(2) Male gametophytic generation
(3) Sporophyte
(4) Anther
SR0008

5. A typical angiosperm anther contains
(1) One microsporangium
(2) Six microsporangia
(3) Three microsporangia
(4) Four microsporangia
SR0009

6. How many cells or nuclei are present in mature male gametophyte of *Capsella*
(1) One (2) Two
(3) Three (4) Many
SR0011

7. How many and what type of male gametes are produced by the male gametophyte of *Capsella*
(1) One, multi cilliated (2) Two, biciliated
(3) Two, multi ciliated (4) Two, non motile
SR0012

8. Ubisch bodies are associated with the development of
(1) Embryo (2) Pollen grains
(3) Endosperm (4) Embryo sac
SR0013

9. Pollen grain of *Capsella* is
(1) Monocolpate (2) Bicolpate
(3) Tricolpate (4) Polycolpate
SR0015

10. Essential whorls of a flowers are
(1) Calyx and Corolla
(2) Corolla and Gynoecium
(3) Androecium and Gynoecium
(4) All of the above
SR0016

11. Sporopollenin is found in :-
(1) Exine (2) Intine
(3) Cytoplasm (4) Nucleus
SR0017

12. In angiosperms, microsporophyll is known as:-
(1) Androecium (2) Anther
(3) Filament (4) Stamen
SR0018

13. In anther, main function of endothecium is :
(1) Mechanical (2) Nutritive
(3) Dehiscence (4) Storage
SR0019

14. Which one is female gametophyte
(1) Embryo (2) Embryosac
(3) Endosperm (4) Pistil
SR0021

15. The functional megaspore in *Capsella* is always
(1) Micropylar (2) Chalazal
(3) All (4) Any
SR0023

16. Filiform apparatus are found in
(1) Antipodal cell (2) Egg cell
(3) Secondary nucleus (4) Synergids
SR0027

17. Perisperm is
(1) Persistent nucellus in seed
(2) Ovule wall
(3) Ovule coat
(4) Fossil of haustoria
SR0028

18. In angiosperms, megasporophyll is called :-
(1) Stamen (2) Carpel
(3) Ovary (4) Stigma
SR0030

19. How many pollen sacs are present in a mature anther at the time of dehiscence?
(1) 4 (2) 1 (3) 3 (4) 2
SR0031

20. Anatropous (Resupinate) type of ovule is :-
(1) Straight (2) Inverted
(3) Transverse (4) Coiled
SR0032

21. The special features of the endothecium of anther of *Capsella* :–
(1) Radially elongated cells
(2) Thickening of α-cellulose
(3) Hygroscopic
(4) All of the above
SR0034

22. When hilum, chalaza and micropyle lie in one straight line then ovule is called:
(1) Amphitropous (2) Orthotropous
(3) Resupinate (4) Anatropous
SR0036

23. Pollen tube develops from
(1) Generative cell
(2) Male gametes
(3) Vegetative cell
(4) Vegetative nucleus
SR0038

24. 'Callase' enzyme which dissolves callose of tetrad of microspores to separate 4-microspores is secreted by:-
(1) Pollen grains (2) Middle layer
(3) Tapetum (4) Endothecium
SR0040

25. The primary endosperm nucleus in *Polygonum* type of embryosac is :-
(1) Haploid (2) Diploid
(3) Triploid (4) Tetraploid
SR0041

26. Science of cultivation, breeding and marketing of flower is :-
(1) Apiculture (2) Embryo culture
(3) Tissue culture (4) Floriculture
SR0042

27. In Angioperms all the four microspores of tetrad are covered by a layer which is made up of :
(1) Pectocellulose (2) Callose
(3) Cellulose (4) Sporopollenin
SR0043

28. All the nuclei in polygonum type of embryosac are
(1) Haploid
(2) Diploid
(3) Haploid and diploid
(4) Haploid and polyploid
SR0046

29. In which family pollinia are found :
(1) Papilionaceae
(2) Asteraceae
(3) Asclepiadaceae
(4) Apocyanaceae
SR0047

30. Nucellus is found in :-
(1) Cell (2) Pollen
(3) Ovule (4) Leaf
SR0048

31. The nutritive layer of microsporangia of *Capsella* is
(1) Endothecium
(2) Exothecium
(3) Sporogenous tissue
(4) Tapetum

SR0049

32. The haploid cell which divides by mitosis to form embryosac is :-
(1) Megaspore mother cell
(2) Microspore mother cell
(3) Functional megaspore
(4) Non functional megaspore

SR0050

33. Microspore mother cell produces microspores by
(1) Meiosis and Mitosis
(2) Mitosis
(3) Meiosis
(4) Mitosis and Amitosis

SR0051

34. Embryosac represents :-
(1) Megagametophyte
(2) Megasporophyll
(3) Microgametes
(4) Megaspore

SR0052

35. Pollen grains are able to withstand extremes of temperature and dessication because their exine is composed of :–
(1) Cutin
(2) Suberin
(3) Sporopollenin
(4) Callose

SR0053

36. How many times flowering takes place in biennial plants :-
(1) Once (2) Twice
(3) Many (4) Three

SR0056

Pollination, fertilization, endosperm, embryo, seed etc.

37. Outer seed coat is known as :-
(1) Aril (2) Testa
(3) Operculum (4) Caruncle

SR0057

38. Which structure of the ovule is diploid :-
(1) Nucellus (2) Integuments
(3) Sec. nucleus (4) All of the above

SR0058

39. Which type of growth is found in pollen tube :-
(1) Lateral growth
(2) Apical growth
(3) Middle growth
(4) No growth

SR0059

40. When pollen grains of a flower are transferred to stigma of another flower of a different plant, the process is called
(1) Geitonogamy
(2) Xenogamy
(3) Autogamy
(4) Homogamy

SR0061

41. Autogamy means
(1) Transfer of pollen from anthers to stigma of the same flowers
(2) Transfer of pollen from one flowers to another on the different plant
(3) Occurence of male and female sex organ in the same flowers
(4) Germination of pollen

SR0062

42. Maize is best example of :
(1) Anemophily (2) Ornithophily
(3) Entomophily (4) Hydrophily

SR0064

43. Which of the following promotes pollen germination and tube growth
(1) Starch (2) Boron
(3) Calcium (4) Potassium
SR0066

44. Polyembryony was first discovered by
(1) Rosenberg (2) Hofmeister
(3) Leeuwenhoek (4) Guha
SR0067

45. Tegmen of the seed develops from:-
(1) Perisperm
(2) Funiculum
(3) Inner integument
(4) Outer integument
SR0068

46. Example of Epihydrophily is :-
(1) *Zostera* (2) *Vallisneria*
(3) *Nelumbium* (4) *Hydrilla*
SR0069

47. Pollination in ***Yucca*** plant takes place by :–
(1) Honey bee (2) Butter fly
(3) Pronuba moth (4) Bird
SR0070

48. The main embryo is developed as a result of
(1) Pollination
(2) Triple fusion
(3) Syngamy
(4) Fusion of two polar nuclei of an embryosac
SR0071

49. After fertilization the outer integument of ovule changes into -
(1) Testa (2) Tegmen
(3) Fruit (4) Seed
SR0072

50. After fertilization the seed is developed from
(1) Ovule (2) Ovary
(3) Nucellus (4) Endosperm
SR0074

51. Double fertilization means
(1) Fusion of male gamete and ovum
(2) Fusion of two polar nuclei
(3) A male gamete fused with egg and second male gamete fused with secondary nucleus
(4) All of the above
SR0075

52. After fertilization seed coat is formed by :
(1) Chalaza
(2) Ovule
(3) Integument
(4) Embryo sac
SR0076

53. The product of fusion of secondary nucleus and male gamete is
(1) Nucellus
(2) Primary endosperm nucleus
(3) Zygote
(4) Perisperm
SR0077

54. Water of coconut is
(1) Endosperm (2) Nucellus
(3) Endocarp (4) Mesocarp
SR0079

55. The suspensor in *Capsella* develops from
(1) Apical cell
(2) Basal cell
(3) Chalazal cell
(4) Apical & basal cell both
SR0080

56. Tigellum represents :-
(1) Testa
(2) Tegmen
(3) Both of the above
(4) Main axis of the embryo
SR0082

57. The number of haploid nuclei taking part in double fertilization are
(1) Two (2) Three
(3) Four (4) Five
SR0083

58. In albuminous seed, the food is stored in-
(1) Testa
(2) Plumule
(3) Cotyledon
(4) Endosperm
SR0084

59. Embryo of sunflower has :-
(1) Two cotyledons
(2) One cotyledon
(3) Eight cotyledons
(4) No cotyledon
SR0091

60. Endosperm is formed during the double fertilization by -
(1) Two polar nuclei and one male gamete
(2) One polar nuclei and one male gamete
(3) Ovum and male gamete
(4) Two polar nuclei and two male gametes
SR0092

61. Adventive embryony in *Citrus* is due to :
(1) Nucellus
(2) Integuments
(3) Zygotic embryo
(4) Fertilized egg
SR0093

62. In Angiosperms pollen tube liberates their male gametes into the :
(1) Central cell
(2) Antipodal cells
(3) Egg cell
(4) Synergid
SR0094

63. The aleurone layer in maize grain is specially rich in :-
(1) Protein (2) Starch
(3) Lipids (4) Auxins
SR0095

64. Anthesis is a phenomenon which refers to–
(1) Formation of pollen
(2) Development of anther
(3) Opening of floral bud
(4) Reception of pollen by stigma
SR0096

65. When the pollens of one flower falls on the stigma of another flower of the same plant then genetically it is known as :-
(1) Cleistogamy
(2) Allogamy
(3) Autogamy
(4) Dichogamy
SR0097

66. What is the liquid part of green Coconut :-
(1) Endosperm
(2) Female gametophyte
(3) Nucellus
(4) Embryo
SR0098

67. Entry of pollen tube through micropyle is called:
(1) Porogamy (2) Syngamy
(3) Chalazogamy (4) Mesogamy
SR0099

68. Through which cell of the embryosac, does the pollen tube enter the embryosac :
(1) Egg cell
(2) Central cell
(3) Persistant synergid
(4) Degenerating synergid
SR0100

69. Generally endosperm of angiosperm is :-

(1) Diploid (2) Triploid

(3) Haploid (4) Tetraploid

SR0101

EXERCISE-I (Conceptual Questions) ANSWER KEY

Que.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Ans.	**4**	**3**	**4**	**2**	**4**	**3**	**4**	**2**	**3**	**3**	**1**	**4**	**3**	**2**	**2**
Que.	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Ans.	**4**	**1**	**2**	**4**	**2**	**4**	**2**	**3**	**3**	**3**	**4**	**2**	**1**	**3**	**3**
Que.	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
Ans.	**4**	**3**	**3**	**1**	**3**	**1**	**2**	**4**	**2**	**2**	**1**	**1**	**2**	**3**	**3**
Que.	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
Ans.	**2**	**3**	**3**	**1**	**1**	**3**	**3**	**2**	**1**	**2**	**4**	**4**	**4**	**1**	**1**
Que.	61	62	63	64	65	66	67	68	69						
Ans.	**1**	**4**	**1**	**3**	**3**	**1**	**1**	**4**	**2**						

EXERCISE-II (Previous Year Questions)

AIPMT/NEET

AIPMT 2006

1. What would be the number of chromosomes in the cells of the aleurone layer in a plant species with 8 chromosomes in its synergids ?
(1) 16 (2) 24 (3) 32 (4) 8

SR0102

2. The arrangement of the nuclei in a normal embryosac in the dicot plants is
(1) 2 + 4 + 2 (2) 3 + 2 + 3
(3) 2 + 3 + 3 (4) 3 + 3 + 2

SR0103

3. In a Cereal grain the single cotyledon of embryo is represented by
(1) Coleorrhiza (2) Scutellum
(3) Prophyll (4) Coleoptile

SR0104

4. Long filamentous threads protruding at the end of a young cob of maize are :
(1) Hairs (2) Anthers
(3) Styles (4) Ovaries

SR0105

5. In which of the following fruits is the edible part the aril ?
(1) Litchi
(2) Custard apple
(3) Pomegranate
(4) Orange

SR0106

AIPMT 2007

6. Male gametes in angiosperms are formed by the division of :-
(1) Microspore mother cell
(2) Microspore
(3) Generative cell
(4) Vegetative cell

SR0108

7. Which one of the following is surrounded by a callose wall ?
(1) Pollen grain
(2) Microspore mother cell
(3) Male gamete
(4) Egg

SR0109

AIPMT 2008

8. Unisexuality of flowers prevents :-
(1) Geitonogamy, but not xenogamy
(2) Autogamy and geitonogamy
(3) Autogamy, but not geitonogamy
(4) Both geitonogamy and xenogamy

SR0110

9. Endosperm is consumed by developing embryo in the seed of :-
(1) Pea (2) Maize
(3) Coconut (4) Castor

SR0111

10. Which one of the following is resistant to enzyme action ?
(1) Pollen exine (2) Leaf cuticle
(3) Cork (4) Wood fibre

SR0112

11. What does the filiform apparatus do at the entrance into ovule ?
(1) It brings about opening of the pollen tube
(2) It guides pollen tube from a synergid to egg
(3) It helps in the entry of pollen tube into a synergid
(4) It prevents entry of more than one pollen tube into the embryo sac

SR0113

12. Which one of the following pairs of plant structures has haploid number of chromosomes ?

(1) Nucellus and antipodal cells

(2) Egg nucleus and secondary nucleus

(3) Megaspore mother cell and antipodal cells

(4) Egg cell and antipodal cells

SR0114

AIPMT 2009

13. An example of a seed with endosperm, perisperm, and caruncle is :-

(1) Castor (2) Cotton

(3) Coffee (4) Lily

SR0115

AIPMT Pre. 2010

14. The scutellum observed in a grain of wheat or maize is comparable to which part of the seed in other monocotyledons ?

(1) Plumule (2) Cotyledon

(3) Endosperm (4) Aleurone layer

SR0116

15. Apomictic embryos in *citrus* arise from :

(1) Diploid egg,

(2) Synergids

(3) Maternal sporophytic tissue in ovule

(4) Antipodal cells

SR0117

16. Wind pollinated flowers are :

(1) Small, producing nectar and dry pollen

(2) Small, brightly coloured, producing large number of pollen grains

(3) Small, producing large number of dry pollen grains

(4) Large, producing abundant nectar and pollen

SR0118

17. Transfer of pollen grains from the anther to the stigma of another flower of the same plant is called :

(1) Autogamy

(2) Xenogamy

(3) Geitonogamy

(4) Karyogamy

SR0119

AIPMT Mains 2011

18. What is common between vegetative reproduction and Apomixis ?

(1) Both produces progeny identical to the parent.

(2) Both are applicable to only dicot plants.

(3) Both bypass the flowering phase.

(4) Both occur round the year.

SR0121

19. In angiosperms, functional megaspore develops into :

(1) Pollen sac (2) Embryo sac

(3) Ovule (4) Endosperm

SR0122

AIPMT Pre. 2011

20. Filiform apparatus is a characteristic feature of :-

(1) Suspensor (2) Egg

(3) Synergid (4) Zygote

SR0123

21. Nucellar polyembryony is reported in species

of :-

(1) *Citrus* (2) *Gossypium*

(3) *Triticum* (4) *Brassica*

SR0124

22. In which one of the following pollination is autogamous ?

(1) Geitonogamy

(2) Xenogamy

(3) Chasmogamy

(4) Cleistogamy

SR0125

23. What would be the number of chromosomes of the aleurone cells of a plant with 42 chromosomes in its root tip cells ?

(1) 42 (2) 63

(3) 84 (4) 21

SR0126

AIPMT Pre. 2012

24. The coconut water and the edible part of coconut are equivalent to :-

(1) Mesocarp (2) Embryo

(3) Endosperm (4) Endocarp

SR0129

25. The gynoecium consists of many free pistils in flowers of :-

(1) *Papaver* (2) *Michelia*

(3) *Aloe* (4) *Tomato*

SR0130

26. Both, autogamy and geitonogamy are prevented in:-

(1) Castor (2) Maize

(3) Papaya (4) Cucumber

SR0131

27. Even in absence of pollinating agents seed-setting is assured in :-

(1) *Salvia* (2) Fig

(3) *Commellina* (4) *Zostera*

SR0132

AIPMT Mains 2012

28. Plants with ovaries having only one or a few ovules, are generally pollinated by :-

(1) Birds (2) Wind

(3) Bees (4) Butterflies

SR0133

29. Which one of the following statements is wrong ?

(1) Pollen grains in some plants remain viable for months.

(2) Intine is made up of cellulose and pectin.

(3) When pollen is shed at two - celled stage, double fertilization does not take place.

(4) Vegetative cell is larger than generative cell.

SR0134

30. What is the function of germ pore?

(1) Initiation of pollen tube

(2) Release of male gametes

(3) Emergence of radicle

(4) Absorption of water for seed germination

SR0135

NEET-UG 2013

31. Perisperm differs from endosperm in:

(1) Its formation by fusion of secondary nucleus with several sperms

(2) Being a haploid tissue

(3) Having no reserve food

(4) Being a diploid tissue

SR0137

32. Megasporangium is equivalent to :
(1) Ovule (2) Embryo sac
(3) Fruit (4) Nucellus
SR0138

33. Advantage of cleistogamy is :-
(1) Vivipary
(2) Higher genetic variability
(3) More vigorous offspring
(4) No dependence on pollinators
SR0139

34. Seed coat is **not** thin, membranous in :
(1) Gram (2) Maize
(3) Coconut (4) Groundnut
SR0140

35. Which one of the following statements is correct?
(1) Tapetum nourishes the developing pollen
(2) Hard outer layer of pollen is called intine
(3) Sporogenous tissue is haploid
(4) Endothecium produces the micorspores
SR0141

AIPMT 2014

36. Geitonogamy involves :
(1) fertilization of a flower by the pollen from another flower of the same plant.
(2) fertilization of a flower by the pollen from the same flower.
(3) fertilization of a flower by the pollen from a flower of another plant in the same population.
(4) fertilization of a flower by the pollen from a flower of another plant belonging to a distant population.
SR0147

37. Male gametophyte with least number of cell is present in :
(1) *Pteris* (2) *Funaria*
(3) *Lilium* (4) *Pinus*
SR0148

38. Pollen tablets are available in the market for :
(1) In vitro fertilization
(2) Breeding programmes
(3) Supplementing food
(4) Ex situ conservation
SR0149

39. Function of filiform apparatus is to :-
(1) Recognize the suitable pollen at stigma
(2) Stimulate division of generative cell
(3) Produce nectar
(4) Guide the entry of pollen tube
SR0150

40. Non-albuminous seed is produced in :-
(1) Maize (2) Castor
(3) Wheat (4) Pea
SR0151

AIPMT 2015

41. Transmission tissue is characteristic feature of :-
(1) Solid style (2) Dry stigma
(3) Wet stigma (4) Hollow style
SR0154

42. Which one of the following may require pollinators, but is genetically similar to autogamy ?
(1) Xenogamy (2) Apogamy
(3) Cleistogamy (4) Geitonogamy
SR0155

43. Which one of the following statements is not true?

(1) Pollen grains of some plants cause severe allergies and bronchial afflictions in some people

(2) The flowers pollinated by flies and bats secrete foul odour to attract them

(3) Honey is made by bees by digesting - pollen collected from flowers

(4) Pollen grains are rich in nutrients, and they are used in the form of tablets and syrups

SR0156

44. The hilum is a scar on the :

(1) Fruit, where it was attached to pedicel

(2) Fruit, where style was present

(3) Seed, where micropyle was present

(4) Seed, where funicle was attached

SR0157

45. Which of the following are the important floral rewards to the animal pollinators?

(1) Nectar and pollen grains

(2) Floral fragrance and calcium crystals

(3) Protein pellicle and stigmatic exudates

(4) Colour and large size flower

SR0158

RE-AIPMT 2015

46. Male gametophyte in angiosperms produces :

(1) Three sperms

(2) Two sperms and a vegetative cell

(3) Single sperm and a vegetative cell

(4) Single sperm and two vegetative cells

SR0159

47. Coconut water from a tender coconut is :

(1) Degenerated nucellus

(2) Immature embryo

(3) Free nuclear endosperm

(4) Innermost layers of the seed coat

SR0160

48. Filiform apparatus is characteristic feature of :

(1) Synergids

(2) Generative cell

(3) Nucellar embryo

(4) Aleurone cell

SR0161

49. The wheat grain has an embryo with one large, shield-shaped cotyledon known as :

(1) Coleoptile (2) Epiblast

(3) Coleorrhiza (4) Scutellum

SR0162

50. Which one of the following fruits is parthenocarpic?

(1) Banana (2) Brinjal

(3) Apple (4) Jackfruit

SR0163

51. In angiosperms, microsporogenesis and megasporogenesis :

(1) occur in ovule

(2) occur in anther

(3) form gametes without further divisions

(4) involve meiosis

SR0164

52. Flowers are unisexual in :

(1) Onion (2) Pea

(3) Cucumber (4) China rose

SR0165

NEET-I 2016

53. The coconut water from tender coconut represents:-
(1) Endocarp
(2) Fleshy mesocarp
(3) Free nuclear proembryo
(4) Free nuclear endosperm

SR0171

54. Proximal end of the filament of stamen is attached to the
(1) Anther
(2) Connective
(3) Placenta
(4) Thalamus or petal

SR0172

55. Which one of the following statements is **not** true?
(1) Tapetum helps in the dehiscence of anther
(2) Exine of pollen grains is made up of sporopollenin
(3) Pollen grains of many species cause severe allergies
(4) Stored pollen in liquid nitrogen can be used in the crop breeding programmes

SR0173

56. Cotyledon of maize grain is called :-
(1) plumule (2) coleorhiza
(3) coleoptile (4) scutellum

SR0174

57. Seed formation without fertilization in flowering plants involves the process of :-
(1) Sporulation
(2) Budding
(3) Somatic hybridization
(4) Apomixis

SR0175

58. Which of the following statements is **not** correct?
(1) Pollen grains of many species can germinate on the stigma of a flower, but only one pollen tube of the same species grows into the style.
(2) Insects that consume pollen or nectar without bringing about pollination are called pollen/nectar robbers.
(3) Pollen germination and pollen tube growth are regulated by chemical components of pollen interacting with those of the pistil.
(4) Some reptiles have also been reported as pollinators in some plant species.

SR0176

NEET-II 2016

59. Which one of the following generates new genetic combinations leading to variation ?
(1) Sexual reproduction
(2) Nucellar polyembryony
(3) Vegetative reproduction
(4) Parthenogenesis

SR0177

60. In majority of angiosperms :
(1) Reduction division occurs in the megaspore mother cells
(2) A small central cell is present in the embryo sac
(3) Egg has a filiform apparatus
(4) There are numerous antipodal cells

SR0178

61. Pollination in water hyacinth and water lily is brought about by the agency of :

(1) Birds (2) Bats

(3) Water (4) Insects or wind

SR0179

62. The ovule of an angiosperm is technically equivalent to :

(1) Megaspore mother cell

(2) Megaspore

(3) Megasporangium

(4) Megasporophyll

SR0180

63. Match **column-I** with **column-II** and select the correct option using the codes given below :

Column-I		Column-II	
(a)	Pistils fused together	(i)	Gametogenesis
(b)	Formation of gametes	(ii)	Pistillate
(c)	Hyphae of higher Ascomycetes	(iii)	Syncarpous
(d)	Unisexual female flower	(iv)	Dikaryotic

	a	b	c	d
(1)	i	ii	iv	iii
(2)	iii	i	iv	ii
(3)	iv	iii	i	ii
(4)	ii	i	iv	iii

SR0181

NEET(UG) 2017

64. Functional megaspore in an angiosperm develops into ?

(1) Endosperm (2) Embryo sac

(3) Embryo (4) Ovule

SR0185

65. Attractants and rewards are required for :

(1) Entomophily (2) Hydrophily

(3) Cleistogamy (4) Anemophily

SR0186

66. Plants which produce characteristic pneumatophores and show vivipary belong to :

(1) Halophytes (2) Psammophytes

(3) Hydrophytes (4) Mesophytes

SR0187

67. Flowers which have single ovule in the ovary and are packed into inflorescence are usually pollinated by:

(1) Bee (2) Wind

(3) Bat (4) Water

SR0188

68. A dioecious flowering plant prevents both :

(1) Autogamy and geitonogamy

(2) Geitonogamy and xenogamy

(3) Cleistogamy and xenogamy

(4) Autogamy and xenogamy

SR0189

69. Double fertilization is exhibited by :

(1) Algae (2) Fungi

(3) Angiosperms (4) Gymnosperms

SR0190

NEET(UG) 2018

70. Which of the following flowers only once in its life-time ?

(1) Bamboo species

(2) Jackfruit

(3) Mango

(4) Papaya

SR0192

71. Pollen grains can be stored for several years in liquid nitrogen having a temperature of

(1) –120°C (2) –80°C

(3) –196°C (4) –160°C

SR0193

72. Double fertilization is

(1) Fusion of two male gametes of a pollen tube with two different eggs

(2) Fusion of one male gamete with two polar nuclei

(3) Fusion of two male gametes with one egg

(4) Syngamy and triple fusion

SR0194

73. Which one of the following plants shows a very close relationship with a species of moth, where none of the two can complete its life cycle without the other?

(1) *Hydrilla*

(2) *Yucca*

(3) Banana

(4) *Viola*

SR0195

NEET(UG) 2019

74. In some plants, the female gamete develops into embryo without fertilization. This phenomenon is known as :

(1) Autogamy

(2) Parthenocarpy

(3) Syngamy

(4) Parthenogenesis

SR0288

75. Which one of the following statements regarding post-fertilization development in flowering plants is **incorrect** ?

(1) Ovary develops into fruit

(2) Zygote develops into embryo

(3) Central cell develops into endosperm

(4) Ovules develop into embryo sac

SR0289

76. Persistent nucellus in the seed is known as :

(1) Chalaza (2) Perisperm

(3) Hilum (4) Tegmen

SR0290

77. What is the fate of the male gametes discharged in the synergid?

(1) One fuses with the egg, other(s) degenerate(s) in the synergid.

(2) All fuse with the egg.

(3) One fuses with the egg, other(s) fuse(s) with synergid nucleus.

(4) One fuses with the egg and other fuses with central cell nuclei.

SR0291

NEET(UG) 2019 (Odisha)

78. Which is the most common type of embryo sac in angiosperms ?

(1) Tetrasporic with one mitotic stage of divisions

(2) Monosporic with three sequential mitotic divisions

(3) Monosporic with two sequential mitotic divisions

(4) Bisporic with two sequential mitotic divisions

SR0292

79. What type of pollination takes place in *Vallisneria*?

(1) Pollination occurs in submerged condition by water

(2) Flowers emerge above surface of water, and pollination occurs by insects.

(3) Flowers emerge above water surface, and pollen is carried by wind.

(4) Male flowers are carried by water currents to female flowers at surface of water

SR0293

80. In which one of the following, both autogamy and geitonogamy are prevented?

(1) Wheat (2) Papaya

(3) Castor (4) Maize

SR0294

NEET(UG) 2020

81. In water hyacinth and water lily, pollination takes place by :

(1) insects and water (2) insects or wind

(3) water currents only (4) wind and water

SR0295

82. The body of the ovule is fused within the funicle at:

(1) Chalaza (2) Hilum

(3) Micropyle (4) Nucellus

SR0296

83. The plant parts which consist of two generations one within the other :

(a) Pollen grains inside the anther

(b) Germinated pollen grain with two male gametes

(c) Seed inside the fruit

(d) Embryo sac inside the ovule

(1) (a) and (d) (2) (a) only

(3) (a), (b) and (c) (4) (c) and (d)

SR0297

NEET(UG) 2020 (COVID-19)

84. Which of the following is incorrect for wind -pollinated plants ?

(1) Well exposed stamens and stigma

(2) Many ovules in each ovary

(3) Flowers are small and not brightly coloured

(4) Pollen grains are light and non-sticky

SR0298

85. Vegetative propagules in Agave is termed as :

(1) Rhizome (2) Bulbil

(3) Offset (4) Eye

SR0299

86. Male and female gametophytes do not have an independent free living existence in :-

(1) Pteridophytes (2) Algae

(3) Angiosperms (4) Bryophytes

SR0300

NEET(UG) 2021

87. The term used for transfer of pollen grains from anthers of one plant to stigma of a different plant which, during pollination, brings genetically different types of pollen grains to stigma, is :

(1) Xenogamy (2) Geitonogamy

(3) Chasmogamy (4) Cleistogamy

SR0301

88. A typical angiosperm embryo sac at maturity is :

(1) 8-nucleate and 7-celled

(2) 7-nucleate and 8-celled

(3) 7-nucleate and 7-celled

(4) 8-nucleate and 8-celled

SR0302

89. In some members of which of the following pairs of families, pollen grains retain their viability for months after release ?

(1) Poaceae ; Rosaceae

(2) Poaceae; Leguminosae

(3) Poaceae; Solanaceae

(4) Rosaceae ; Leguminosae

SR0303

NEET(UG) 2021 (Paper-2)

90. Consider the following statements and choose the correct option.

(a) The ovule is attached to the placenta by means of a stalk called hilum.

(b) Funicle represents the junction between ovule and hilum.

(c) Each ovule has one or two protective envelopes called integuments.

(d) A small opening is present at the tip of ovule called micropyle.

(1) (a) and (b) (2) (b) and (c)

(3) (c) and (d) (4) (a) and (d)

SR0305

91. Which of the following plants are pollinated by water?

(1) *Hydrilla* (2) *Zostera*

(3) *Vallisneria* (4) All of the above

SR0306

92. Product of asexual reproduction generally generates

(1) Morphologically similar individuals

(2) Genetically similar individuals

(3) Offspring that are exact copies of their parent

(4) All of the above

SR0307

NEET(UG) 2022

93. Identify the incorrect statement related to Pollination:

(1) Pollination by wind is more common amongst abiotic pollination

(2) Flowers produce foul odours to attract flies and beetles to get pollinated

(3) Moths and butterflies are the most dominant pollinating agents among insects

(4) Pollination by water is quite rare in flowering plants

SR0308

94. Given below are two statements:

Statement I :

Cleistogamous flowers are invariably autogamous

Statement II :

Cleistogamy is disadvantageous as there is no chance for cross pollination.

In the light of the above statements, choose the correct answer from the options given below:

(1) Both **Statement I** and **Statement II** are incorrect

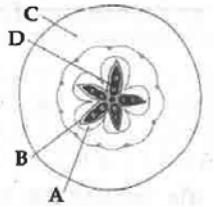
(2) **Statement I** is correct but **Statement II** is incorrect

(3) **Statement I** is incorrect but **Statement II** is correct

(4) Both **Statement I** and **Statement II** are correct

SR0309

95. Which part of the fruit, labelled in the given figure makes it a false fruit ?



(1) B → Endocarp

(2) C → Thalamus

(3) D → Seed

(4) A → Mesocarp

SR0310

NEET(UG) 2022 (OVERSEAS)

96. What will be the ploidy of endosperm of a seed produced after crossing tetraploid female plant with tetraploid male plant?

(1) Hexaploid

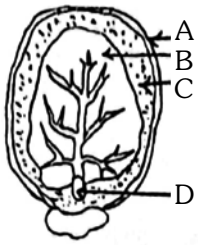
(2) Diploid

(3) Triploid

(4) Pentaploid

SR0311

97. Which of the following set represents the correct labelling of A, B, C and D with respect to the given diagram?



(1) A-Seed Coat, B-Scutellum, C-Endocarp, D-Mesocarp
(2) A-Seed Coat, B-Scutellum C-Micropyle, D-Endocarp
(3) A-Pericarp, B-Coleoptile C-Endosperm, D-Scutellum
(4) A-Seed Coat, B-Cotyledon, C-Endosperm, D-Hypocotyle

SR0312

RE-NEET(UG) 2022

98. In general the egg apparatus of embryo sac in angiosperm consists of :
(1) One egg cell, two synergids, three antipodal cells, two Polar nuclei
(2) One egg cell, two synergids, two antipodal cells, three Polar nuclei
(3) One egg cell, three synergids, two antipodal cells, two Polar nuclei
(4) One egg cell, two synergids, two antipodal cells, two Polar nuclei

* There is no correct answer of this question in given options, but if in the given question "egg apparatus of" words are removed then best possible option will be (1) i.e. "one egg cell, two synergids, three antipodal cells, two polar nuclei".

SR0313

99. The residual persistent part which forms the perisperm in the seeds of beet is :
(1) Calyx (2) Endosperm
(3) Nucellus (4) Integument

SR0314

100. Which of the following can be expected if scientists succeed in introducing apomictic gene into hybrid varieties of crops ?
(1) Polyembryony will be seen and each seed will produce many plantlets
(2) Seeds of hybrid plants will show longer dormancy
(3) Farmers can keep on using the seeds produced by the hybrids to raise new crop year after year
(4) There will be segregation of the desired characters only in the progeny

SR0315

EXERCISE-II (Previous Year Questions) ANSWER KEY

Que.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Ans.	**2**	**2**	**2**	**3**	**1**	**3**	**2**	**3**	**1**	**1**	**3**	**4**	**1**	**2**	**3**
Que.	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Ans.	**3**	**3**	**1**	**2**	**3**	**1**	**4**	**2**	**3**	**2**	**3**	**3**	**2**	**3**	**1**
Que.	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
Ans.	**4**	**1**	**4**	**3**	**1**	**1**	**3**	**3**	**4**	**4**	**1**	**4**	**3**	**4**	**1**
Que.	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
Ans.	**2**	**3**	**1**	**4**	**1**	**4**	**3**	**4**	**4**	**1**	**4**	**4**	**1**	**1**	**1**
Que.	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75
Ans.	**4**	**3**	**2**	**2**	**1**	**1**	**2**	**1**	**3**	**1**	**3**	**4**	**2**	**4**	**4**
Que.	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90
Ans.	**2**	**4**	**2**	**4**	**2**	**2**	**2**	**1**	**2**	**2**	**3**	**1**	**1**	**4**	**3**
Que.	91	92	93	94	95	96	97	98	99	100					
Ans.	**4**	**4**	**3**	**4**	**2**	**1**	**4**	**1**	**3**	**3**					

EXERCISE-III

Master Your Understanding

EXERCISE-III(A) (NCERT BASED QUESTIONS)

1. Each cell of sporogenous tissue is potential pollen or microspore mother cell; Division taking place in sporogenous cell is :-
(1) Meiosis (2) Mitosis
(3) Endomitosis (4) Amitosis

SR0200

2. In over 60% of angiosperms pollen grains are shed at :-
(1) One celled stage
(2) Three nuclei stage
(3) Two celled stage
(4) Three celled stage

SR0201

3. Pollen grains of many species cause severe allergies & bronchial afflictions in some people often leading to chronic respiratory disorder such as :-
(1) Asthma (2) Bronchitis
(3) Both 1 & 2 (4) Emphysema

SR0202

4. In a pollen grain the small cell is spindle shaped with dense cytoplasm is :-
(1) Vegetative cell
(2) Generative cell
(3) Tube cell
(4) All

SR0203

5. The innermost wall layer of anther is tapetum; the main function of tapetum is :-
(1) Divison (2) Support
(3) Nutrition (4) Protection

SR0218

6. Two non motile male gametes in angiosperms are produced by :-
(1) Generative cell
(2) Megaspore
(3) Vegetative cell
(4) Tube cell

SR0219

7. Which of the following haploid structure is present in male plant of papaya?
(1) Antipodal cell
(2) Microspore mother cell
(3) Generative cell
(4) 1 & 3 both

SR0228

8. Pollen grain represents
(1) Female gametophyte
(2) Megasporangium
(3) Male gametophyte
(4) Sporophyte

SR0304

9. A typical angiosperm embryosac at maturity is :-
(1) 7-celled - 8 nucleated
(2) 9-celled - 7 nucleated
(3) 3-celled - 3 nucleated
(4) 2-celled - 2 nucleated

SR0204

10. Transfer of pollen grains from the anther to the stigma of another flower of same plant is called :-
(1) Xenogamy (2) Autogamy
(3) Geitonogamy (4) Allogamy

SR0215

11. The part of pistil which acts as landing platform for pollen grain is :-
(1) Stigma (2) Style
(3) Ovule (4) Ovary

SR0217

12. Non albuminous seeds are present in :-
(1) *Pisum* (Pea)
(2) *Arachis* (Ground nut)
(3) Both
(4) Maize

SR0210

13. The type of cells under going meiosis in the flowers are
(1) Microspore mother cells & megaspore mother cell
(2) Epidermal cells
(3) Tapetal cells
(4) Placental cells

SR0234

14. Chasmocleistogamous flowers are present in :-
(1) *Viola* (common pansy)
(2) *Oxalis*
(3) *Commelina*
(4) All of the above

SR0208

15. Although in most of species fruits are result of fertilisation, there are a few species in which fruit develops without fertilisation - process is known as:
(1) Parthenocarpy (2) Parthenogenesis
(3) Amphimixis (4) Apomixis

SR0209

16. One of the male gamete moves towards the egg cell & fuses with it, the process is known as :-
(1) Syngamy
(2) Triple fusion
(3) Double fertilization
(4) Autogamy

SR0213

17. Nucellar polyembryony is reported in species of :-
(1) *Citrus* (2) Mango
(3) Both 1 & 2 (4) *Capsella*

SR0224

Exercise-III(B) (Analytical questions)

18. Which of the following are crucial for the storage of seeds ?
(1) Rehydration
(2) Dehydration
(3) Seed dormancy
(4) Both 2 & 3

SR0240

19. The function of suspensor is
(1) To provide water
(2) To provide oxygen
(3) To push the embryo towards endosperm to provide more food
(4) To store food

SR0241

20. Single shield shaped cotyledon of grass is known as:-
(1) Tigellum (2) Scutellum
(3) Coleoptile (4) Coleorrhiza

SR0206

21. Epicotyl has a shoot apex and few leaf primordia enclosed in a hollow foliar structure known as :-
(1) Coleoptile (2) Coleorrhiza
(3) Scutellum (4) Tigellum

SR0207

22. Micropyle in seed helps in the entry of
(1) Male gamete
(2) Pollen tube
(3) Water & oxygen
(4) All

SR0233

23. The coconut water from tender coconut that you are familiar with is :-
(1) Nuclear endosperm
(2) Cellular endosperm
(3) Intermediate endosperm
(4) All of the above

SR0212

24. Endosperm development precedes embryo development, the endosperm of angiospermic plant is :-
(1) Triploid (2) Diploid
(3) Haploid (4) Tetraploid

SR0214

25. Which of the following structure is not present in embryo of gram
(1) Radicle (2) Hypocotyl
(3) Epicotyl (4) Coleoptile

SR0221

26. The portion of embryonal axis below the level of cotyledon is known as :-
(1) Coleoptile (2) Hypocotyl
(3) Epicotyl (4) Coleorrhiza

SR0242

27. In some seeds, remnant of nucellus is known as :-
(1) Scutellum (2) Pericarp
(3) Tigellum (4) Perisperm

SR0211

28. Perisperm is present in :
(1) Beet (2) Black pepper
(3) Both 1 & 2 (4) All angiosperms

SR0216

29. Seeds are produced without fertilization in some members of
(1) Grasses and pulses (2) Asteraceae
(3) Fabaceae (4) Orchidaceae

SR0235

30. Parthenogenesis occurs when :-
(1) Embryo is formed without the fusion of egg and sperm (male gamete)
(2) Embryo is formed by the fusion of egg and sperm
(3) Embryo is formed from nucellar cell
(4) Sperm produces the embryo directly

SR0259

31. In a type of apomixis which is known as adventive embryony, embryos develop directly from the :
(1) Nucellus or integuments
(2) Synergids or antipodals of an embryosac
(3) Accessory embryosacs in the ovule
(4) Zygote

SR0263

32. Proliferation of integumentary cells at the micropylar region of the ovule in castor develops
(1) Aril
(2) Funicle
(3) Caruncle
(4) Filiform apparatus

SR0230

33. Just before fertilization the diploid structure in the ovule of *Capsella* is
(1) Pollen tube
(2) Nucellus/ Sec.nucleus
(3) Synergids
(4) Antipodals

SR0231

34. Free nuclear division in an angiosperm takes place during
(1) Pollen formation
(2) Endosperm formation
(3) Embryo formation
(4) Flower formation

SR0232

35. Protandry is the situation when :-
(1) Anther matures later than the stigma of flower
(2) Anther matures earlier than the stigma of flower
(3) Anther and stigma mature at the same time
(4) All of the above

SR0237

36. The anterior end of pollen tube burst by the process of _____ in embryosac-
(1) Imbibition (2) Exosmosis
(3) Enzymatic action (4) Endosomosis

SR0238

37. In angiosperms haploid, diploid and triploid conditions respectively can be traced in :-
(1) Egg, Nucellus, Endosperm
(2) Antipodal, Egg, Endosperm
(3) Endosperm, Nucellus, Synergids
(4) Antipodal, Synergids & Integuments

SR0243

38. If the leaf of *Capsella* has 46 number of chromosomes then how many chromosomes number will be there in endosperm -
(1) 46 (2) 23
(3) 69 (4) 138

SR0244

39. If the nucellus cell of an Angiosperm contains 24 chromosomes, the number of chromosomes present in pollen grain, endosperm & embryo will be
(1) 24, 36, 24 (2) 12, 36, 24
(3) 12, 24, 36 (4) 24, 12, 12

SR0245

40. In Angiosperm, if haploid number of chromosome is 12 then what will be the no. of chromosomes in integuments and synergids :-
(1) 12, 12 (2) 24, 12
(3) 24, 24 (4) 12, 24

SR0246

41. In Angiosperm, if number of chromosomes in endosperm is 30, what will be the no. of chromosomes in nucellus :-
(1) 15 (2) 30 (3) 20 (4) 40

SR0248

42. How many meiotic divisions are necessary for the formation of 100 functional megaspores:-
(1) 25 (2) 50 (3) 100 (4) 200

SR0250

43. The seeds of which type of plant have no dormancy
(1) Xerophytes
(2) Mesophytes
(3) Halophytes and hydrophyte
(4) Mangroves

SR0251

44. Anemophily type of pollination is found in :
(1) *Yucca* (2) Bottle brush
(3) *Vallisneria* (4) Coconut

SR0255

45. In grass what happens in microspore mother cell for the formation of mature pollen grain :
(1) One meiotic and two mitotic divisions
(2) One meiotic and one mitotic division
(3) One meiotic division only
(4) One mitotic division only

SR0256

46. Syncarpous gynoecium is found in :-
(1) Rose
(2) *Papaver*
(3) Lotus
(4) *Michelia*

SR0316

47. When a diploid female plant is crossed with a tetraploid male plant, the ploidy of endosperm cells in the resulting seed will be :-
(1) Pentaploid (2) Diploid
(3) Triploid (4) Tetraploid

SR0258

48. If diploid female plant is crossed with tetra ploid male plant. What would be ploidy level of seed coat.
(1) 3n (2) n (3) 2n (4) 4n

SR0260

49. Perispermic and endospermic seeds are found in
(1) Castor (2) Maize
(3) Wheat (4) Rice

SR0262

50. Double fertilization involves :-
(1) Fertilization of the egg by two male gametes
(2) Fertilization of two eggs in the same embryosac by two sperms brought by one pollen tube
(3) Fertilization of the egg and the central cell by two sperms (male gametes) brought by different pollen tubes
(4) Fertilization of the egg and the central cell by two sperms (male gametes) brought by the same pollen tube

SR0264

EXERCISE-III ANSWER KEY

Que.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Ans.	**1**	**3**	**3**	**2**	**3**	**1**	**3**	**3**	**1**	**3**	**1**	**3**	**1**	**4**	**1**
Que.	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Ans.	**1**	**3**	**4**	**3**	**2**	**1**	**3**	**1**	**1**	**4**	**2**	**4**	**3**	**2**	**1**
Que.	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
Ans.	**1**	**3**	**2**	**2**	**2**	**4**	**1**	**3**	**2**	**2**	**3**	**3**	**4**	**4**	**2**
Que.	46	47	48	49	50										
Ans.	**2**	**4**	**3**	**1**	**4**										