Sexual Reproduction in Flowering Plants

Question 1.
What is the function of filiform apparatus in an angiospermic embryo sac?
(a) Brings about opening of the pollen tube
(b) Guides the pollen tube into a synergid
(c) Prevents entry of more than one pollen tube into a synergid
(d) None of these
Answer:
(b) Guides the pollen tube into a synergid

Question 2.
The female gametophyte of a typical dicot at the time of fertilisation is
(a) 8 – celled
(b) 7 – celled
(c) 6 – celled
(d) 5 – celled
Answer:
(b) 7 – celled

Question 3.
Polygonum type of embryo sac is
(a) 8 – nucleate, 7 – celled
(b) 8 – nucleate, 8 – celled
(c) 7 – nucleate, 7 – celled
(d) 4 – nucleate, 3 – celled
Answer:
(a) 8 – nucleate, 7 – celled

Question 4.
Both chasmogamous and cleistogamous flowers are present in
(a) Helianthus
(b) Commelina
(c) Rosa
(d) Gossypium
Answer:
(b) Commelina

Question 5.
Even in absence of pollinating agents seed-setting is assured in
(a) Commelina
(b) Zostera
(c) Salvia
(d) Fig
Answer:
(a) Commelina

Question 6.
Male and female flowers are present on different plants (dioecious) to ensure xenogamy, in
(a) papaya
(b) bottle gourd
(c) maize
(d) all of these.
Answer:
(a) papaya

Question 7.
Feathery stigma occurs in
(a) pea
(b) wheat
(c) Datura
(d) Caesalpinia
Answer:
(b) wheat

Question 8.
Plants with ovaries having only one or a few ovules are generally pollinated by
(a) bees
(b) butterflies
(c) birds
(d) wind
Answer:
(d) wind

Question 9.
Which of the following is not a water pollinated plant ?
(a) Zostera
(b) Vallisneria
(c) Hydrilla
(d) Cannabis
Answer:
(d) Cannabis

Question 10.
Spiny or sticky pollen grains and large, attractively coloured flowers are associated with
(a) hydrophily
(b) entomophily
(c) ornithophily
(d) anemophily
Answer:
(b) entomophily

Question 11.
Endospermic seeds are found in
(a) castor
(b) barley
(c) coconut

(d) all of these
Answer:
(d) all of these

Question 12.
In albuminous seeds, food is stored in _____ and in non albuminous seeds, it is stored in _____.
(a) endosperm, cotyledons
(b) cotyledons, endosperm
(c) nucellus, cotyledons
(d) endosperm, radicle
Answer:
(a) endosperm, cotyledons

Question 13.
Persistent nucellus is called as _____ and is found in _____.
(a) perisperm, black pepper
(b) perisperm, groundnut `
(c) endosperm, black pepper
(d) endosperm groundnut
Answer:
(a) perisperm, black pepper

Question 14.
Indentify the wrong statement regarding post-fertilisation development.
(a) The ovary wall develops into pericarp.
(b) The outer integument of ovule develops into tegmen.
(c) The fusion nucleus (triple nucleus) develops into endosperm.
(d) The ovule develops into seed.
Answer:
(b) The outer integument of ovule develops into tegmen.

Question 15.
Polyembryony commonly occurs in
(a) banana
(b) tomato
(c) potato
(d) citrus.
Answer:
(d) citrus.

Question 16.
An embryo may sometimes develop from any cell of embryo sac other than egg. It is termed as
(a) apospory
(b) apogamy
(c) parthenogenesis
(d) parthenocarpy
Answer:
(b) apogamy

Question 17.
Embryo sac is to ovule as _____ is to an anther.
(a) Stamen
(b) filament
(c) pollen grain
(d) androecium
Answer:
(c) pollen grain

Question 18.
The outermost and innermost wall layers of microsporangium in an anther are respectively
(a) endothecium and tapetum
(b) epidermis and endodermis
(c) epidermis and middle layer
(d) epidermis and tapetum.
Answer:
(d) epidermis and tapetum.

Question 19.
During microsporogenesis, meiosis occurs in
(a) endothecium
(b) microspore mother cells
(c) microspore tetrads
(d) pollen grains
Answer:
(b) microspore mother cells

Question 20.
From among the sets of terms given below, identify those that are associated with the gynoecium.
(a) Stigma, ovule, embryo sac, placenta
(b) Thalamus, pistil, style, ovule
(c) Ovule, ovary, embryo sac, tapetum
(d) Ovule, stamen, ovary, embryo sac
Answer:
(a) Stigma, ovule, embryo sac, placenta

Question 21.
Science of cultivation, breeding, marketing and arrangement of flowers is called
(a) arboriculture
(b) floriculture
(c) horticulture
(d) anthology
Answer:
(b) floriculture

Question 22.
Nonessential floral organs in a flower are
(a) sepals and petals
(b) anther and ovary

(c) stigma and filament
(d) petals only.
Answer:
(a) sepals and petals

Question 23.
The stamens represent
(a) microsporangia
(b) male gametophyte
(c) male gametes
(d) microsporophylls.
Answer:
(d) microsporophylls

Question 24.
Anther is generally
(a) monosporangiate
(b) bisporangiate
(c) letrasporangiate
(d) trisporangiate.
Answer:
(c) letrasporangiate

Question 25.
The anther wall consists of four wall layers where
(a) tapetum lies just inner to endothecium
(b) middle layers lie between endothecium and tapetum
(c) endothecium lies inner to middle layers
(d) tapetum lies next to epidermis.
Answer:
(b) middle layers lie between endothecium and tapetum

Question 26.
The innermost layer of anther is tapetum whose function is
(a) dehiscence
(b) mechanical
(c) nutrition
(d) protection.
Answer:
(c) nutrition

Question 27.
Callase enzyme which dissolves callose of pollen tetrads to separate four pollens is provided by
(a) pollens
(b) tapetum
(c) middle layers
(d) endothecium.
Answer:
(b) tapetum

Question 28.
In angiosperms various stages of reductional division can best be studied in
(a) young anthers
(b) mature anthers
(c) young ovules
(d) endosperm cells.
Answer:
(a) young anthers

Question 29.
Study of pollen grains is called
(a) micrology
(b) anthology
(c) palynology
(d) pomology
Answer:
(c) palynology

Question 30.
Several pollen grains form a unit designated as pollinium in Family
(a) Asteraceae
(c) Asclepiadaceae Pollen
(b) Cucurbitaceae
(d) Brassicaceae
Answer:
(c) Asclepiadaceae Pollen

Question 31.
Triple fusion in Capsella bursa pastoris is fusion of male gamete with
(a) egg
(b) synergid
(c) secondary nucleus
(d) antipodal.
Answer:
(c) secondary nucleus

Question 32.
Double fertilisation was first discovered in 1898 by _____ in Fritillaria and Lilium.
(a) Nawaschin
(b) Strasburger
(c) Amici
(d) Focke
Answer:
(a) Nawaschin

Question 33.
If an endosperm cell of an angiosperm contains 24 chromosomes, the number of chromosomes in each cell of the root will be
(a) 8
(b) 4

(c) 16
(d) 24
Answer:
(c) 16

Question 34.
The cells of endosperm have 24 chromosomes. What will be the number of chromosomes in the gametes ?
(a) 8
(b) 16
(c) 23
(d) 32
Answer:
(a) 8

Question 35.
The true embryo develops as a result to fusion of
(a) two polar nuclei of embryo sac
(b) egg cell and male gamete
(c) synergid and male gamete
(d) male gamete and antipodals.
Answer:
(b) egg cell and male gamete

Question 36.
Father of Indian embryology is
(a) P. Maheshwari
(b) Swaminathan
(c) R. Misra
(d) Butler
Answer:
(a) P. Maheshwari

Question 37.
The portion of embryonal axis between plumule (future shoot) and cotyledons is called
(a) hypocotyl
(b) epicotyl
(c) coleorhiza
(d) coleoptile.
Answer:
(b) epicotyl

Question 38.
Coleoptile and coleorhiza are the protective sheaths _____ covering _____ and _____ respectively.
(a) plumule, epicotyl
(b) radicle, plumule
(c) plumule, radicle
(d) radicle, hypocotyl

Answer:
(c) plumule, radicle

Question 39.
_____ is not an endospermic seed.
(a) Pea
(b) Castor
(c) Maize
(d) Wheat
Answer:
(a) Pea

Question 40.
Endosperm is completely consumed by the developing embryo in
(a) pea and groundnut
(b) maize and castor
(c) castor and groundnut
(d) maize and pea.
Answer:
(a) pea and groundnut

Question 41.
Pollen grain is a
(a) megaspore
(b) microspore
(b) microspore
(d) microsporangium.
Answer:
(b) microspore

Question 42.
How many pollen mother cells should undergo meiotic division to produce 64 pollen grains ?
(a) 64
(b) 32
(c) 16
(d) 8
Answer:
(c) 16

Question 43.
How many meiotic divisions are required for the formation of 100 pollen grains ?
(a) 100
(b) 50
(c) 25
(d) 26
Answer:
(c) 25

Question 44.
One of the most resistant biological material present in the exine of pollen grain is
(a) pectocellulose
(b) sporopollenin
(c) suberin
(d) cellulose.
Answer:
(b) sporopollenin

Question 45.
What is the function of germ pore ?
(a) Emergence of radicle
(b) Absorption of water for seed germination
(c) Initiation of pollen tube
(d) All of these .
Answer:
(c) Initiation of pollen tube

Question 46.
_____of the pollen grain divides to form two male gametes.
(a) Vegetative cell
(b) Generative cell
(c) Microspore mother cell
(d) None of these
Answer:
(b) Generative cell

Question 47.
The three cells found in a pollen grain when it is shed at 3-celled stage are
(a) 1 vegetative cell, 1 generative cell, 1 male gamete
(b) 1 vegetative cell, 2 male gametes
(c) 1 generative cell, 2 male gametes
(d) either (a) or (b).
Answer:
(b) 1 vegetative cell, 2 male gametes

Question 48.
Megasporangium along with its protective integuments is called
(a) ovary
(b) ovule
(c) funicle
(d) chalaza
Answer:
(b) ovule

Question 49.
Mature ovules are classified on the basis of funiculus. If micropyle comes to lie close to the funiculus the ovule is termed as
(a) orthotropous
(b) anatropous

(c) hemitropous
(d) campylotropous
Answer:
(b) anatropous

Question 50.
When micropyle, chalaza and hilum lie in a straight line, the ovule is said to be
(a) anatropous
(b) orthotropous
(c) amphitropous
(d) campylotropous.
Answer:
(b) orthotropous

Question 51.
Fragrant flowers with well developed nectaries are an adaptation for
(a) hydrophily
(b) anemophily
(c) entomophily
(d) none of these
Answer:
(c) entomophily

Question 52.
Pollen kitt is generally found in
(a) anemophilous flowers
(b) entomophilous flowers
(c) ornithophilous flowers
(d) malacophilous flowers
Answer:
(b) entomophilous flowers

Question 53.
Which of these is a condition that makes flowers invariably autogamous ?
(a) Dioecy
(b) Self incompatibility
(c) Cleistogamy
(d) Xenogamy
Answer:
(c) Cleistogamy

Question 54.
Heterostyly as a contrivance for cross-pollination is found in
(a) Pennisetum
(b) Impatiens
(c) Primula vulgaris
(d) Oenothera
Answer:
(c) Primula vulgaris

Question 55.
The part of gynoecium that determines the compatible nature of pollen is
(a) stigma
(b) style
(c) ovary
(d) synergids
Answer:
(a) stigma

Question 56.
Part of the gynoecium which receives the pollen is called
(a) style
(b) stigma
(c) ovule
(d) ovary
Answer:
(b) stigma

Question 57.
Growth of pollen tube towards embryo sac is
(a) chemotropic
(b) thigmotaxis
(c) geotropic
(d) none of these
Answer:
(a) chemotropic

Question 58.
During the process of fertilisation the pollen tube of the pollen grain usually enters the embryo sac through
(a) integument
(b) nucellus
(c) chalaza
(d) micropyle
Answer:
(d) micropyle

Question 59.
Fusion of one of the male gametes with egg nucleus is referred to as
(a) generative fertilisation
(b) syngamy
(c) vegetative fertilisation
(d) both (a) and (b)
Answer:
(d) both (a) and (b)

Question 60.
The total number of nuclei involved in double fertilisation in angiospersm are
(a) two
(b) three

(c) four
(d) five
Answer:
(d) five