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1. A nucleoside is:

(a) purine/pyramidine + phosphate

(b) purine/pyramidine + sugar

(c) Pyramidine + purine + phosphate

(d) Purine + sugar + phosphate

Ans. (b)

2. Feather stigma is present in:

(a) Pea

(b) Hibiscus

(c) Wheat

(d) Poppy

Ans. (c)

3. In angiosperms regarding development of microgametophyte each microspore mother cell undergoes

(a) Mitosis to produce 4 microspores

(b) Two successive mitosis to form 4 microspores

(c) Two successive meiotic division to form 4 microspores

(d) Meiosis to produce 4 haploid microspores

Ans. (d)

4. Formation of diploid embryosac from diploid vegetative structure, e.g., nucellus or integument etc., without meiosis is called:

(a) Apospory

(b) Apomixis

(c) Diplospory

(d) Adventives polyembryony

Ans. (a)

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5. Pmcess of water exudation through hydathodes is known as:

(a) Guttation

(b) Transpiration

(c) Evaporation

(d) Bleeding

Ans. (a)

6. Basal placentation is found in the family:

(a) Malvaceae

(b) Solanaceae

(c) Fabaceae

(d) Asteraceae

Ans. (d)

7. Insectivorous plants grow in:

(a) Nitrogen rich soil

(b) Nitrogen deficient soil

(c) Potassium deficient soil

(d) Carbohydrate rich soil

Ans. (b)

8. In a pond ecosystem, benthos means:

(a) Zooplanktons on water surface

(b) Large fishes eating small ones

(c) Primary consumes in the bottom of a pond

(d) All phytoplankton's

Ans. (c)

9. Eyes on potato tubers represent:

(a) Rootlets

(b) Nodes with buds

(c) Scars

(d) Sutures

Ans. (b)

10. Fungus without mycelium is:

(a) Puccinia

(b) Rhizopus

(c) Saccharomyces

(d) Mucor

Ans. (c)

11. The organelles involved in photorespiration are

(a) Glyoxysomes, chloroplast and mithondria

(b) Chloroplast, peroxisome and glythisome

(c) Mitochondria, peroxisome and glyoxysomes

(d) Chloroplast, mitochondria and peroxisome

Ans. (d)

12. ? X l74 has:

(a) Single stranded DNA

(b) Single stranded RNA

(c) Double stranded RNA

(d) Double stranded DNA

Ans. (a)

13. Floridean starch is found in:

(a) Chlorophyceae

(b) Myxophyceae

(c) Phaeophyceae

(d) Rhodophyceae

Ans. (d)

14. The hormone reducing transpiration rate by inducing stomatal closure is:

(a) ABA

(b) Ethylene

(c) Cytokipin

(d) Auxin

Ans. (a)

15. In bryoph4tes the female sex organ is called:

(a) Archegonium

(b) Antheridium

(c) Carpogonium

(d) Ascogonium

Ans. (a)

16. The pigment involved in photo morphogenetic movements is:

(a) Cytochrome

(b) Phytochrome

(c) Chromatin

(d) Vernalin

Ans. (b)

17. First CO_2 receptor in C_4 plants is:

(a) PGA

(b) PEP

(c) RuBD

(d) OAA

Ans. (b)

18. The components of an ecosystem are:

(a) Trees and weeds

(b) Plants and animals

(c) Man and plants

(d) Biotic and abiotic

Ans. (d)

19. The two great industrial tragedies MIC and Chemobyl occurred respectively in:

(a) Bhopal 1984, Ukraine 1986

(b) Madhya Pradesh 1980, Russia 1990

(c) Bhopal 1980, Ukraine 1984

(d) Ukraine 1990, Bhopal 1986

Ans. (a)

20. Tyloses are:

(a) Lactiferous channels

(b) Secretory cells

(c) Sieve plates

(d) Tracheal plugs plugging the lumen of vessels and tracheids

Ans. (d)

21. The 10% energy transfer law of food chain was given by

(a) Lederberg

(b) Lindmann

(c) Weismann

(d) Lindley

Ans. (b)

22. Reaction centre of photo system-I in green plants is:

(a) P_{680}

(c) P_{690}

(b) P_{700}

(d) P_{780}

Ans. (c)

23. Number of cotyledons in Zea mays, Cycas and

Pinus respectively are:

(a) 1, 2, 4

(b) 1, 2, many

(c) 2, 2, many

(d) 2, 1, 4

Ans. (b)

24. Double fertilization is found in:

(a) Bryophytes

(b) Angiosperms

(c) Gymnosperms

(d) Pteridophytes

Ans. (b)

25. If a sporangium derived from a single cell is called

(a) Leptosporangiate

(b) Eusporangiate

(c) Heterosporangiate

(d) None of the above

Ans. (a)

26. The term water potential was proposed by:

(a) Godlewski

(b) Slatyer and Taylor

(c) Dixon and Jolly

(d) J. C. Bose

Ans. (b)

27. A plant having two types of haploid structures in its life cycle is known as:

(a) Haplobiontic

(b) Diplobiontic

(c) Haplontic

(d) Diplontic

Ans. (a)

28. Ribozyme is:

(a) enzyme

(b) RNA with enzymatic activity

(c) Hormone

(d) Protein

Ans. (b)

29. A chain of amino acids joined by peptide bonds is called as

(a) Peptide chain

(b) Polypeptide chain

(c) Polyamino acid chain

(d) Nucleotide chain

Ans. (b)

30. Root cap is not found n:

(a) Mesophytes

(c) Hydrophytes

(b) Xerophytes

(d) Halophytes

Ans. (c)

31. The high yielding hybrid crop varieties to exploit hybrid vigour, the farmers need to

Purchase fresh hybrid seed every year because:

(a) Hybrid vigour is not long standing due to inbreeding depression

(b) They are not allowed to grow their own seed

(c) It is always associated with 4ncreased heterozygosity

(d) Government has accepted Dunkel's proposals

Ans. (a)

32. In Bignonia eapreolata pollination is carried out by:

(a) Bat

(b) Bird

(c) Insect

(d) Wind

Ans. (a)

33. Fragrant flowers with well developed nectarines are an adaptation for:

(a) Anemophily

(b) Ornithophily

(c) Entamophily

(d) Hydrophily

Ans. (c)

34. Genetic engineering is related with:

(a) Eugenics

(b) Euphenics

(c) Euthenics

(d) All of these

Ans. (b)

35. Floating roots are the characteristics feature of:

(a) Viscum

(c) Vanda

(b) Cuscuta

(d) Jussiaea

Ans. (d)

36. Various fungi are known to accumulate considerable quantities of divalent metals,

e.g.

(a) Cd

(b) Zn

(d) All of these

(c) Pb

Ans. (d)

37. Soil salinity is measured by:

(a) Potometer

(b) Porometer

(c) Conductivity meter

(d) Calorimeter

Ans. (c)

38. Which one of the following is the earliest land plant?

(a) Rhynia

(b) Cycas

(c) Ulothrix

(d) Synchytrium

Ans. (a)

39. The scutellum of the gram embryo is a:

(a) Vestigial organ

(b) Photosynthetic organ

(c) Absorptive organ

(d) Protective organ

Ans. (a)

40. The diameter of Z-DNA is:

(a) 34 A

(b) 20A

(c) 18A

(d) 45A

Ans. (c)

41. The genes, which remain confined to differential region of 'Y' chromosome, are:

(a) Autosomal genes

(b) Holandric genes

(c) Sex linked genes

(d) Mutant genes

Ans. (b)

42. The hormone responsible for ripening of fruits is

(a) Ethylene

(b) Cytokinin

(c) Auxin

(d) ABA

Ans. (a)

43. Coir is the commercial product of coconuts:

(a) Mesocarp

(b) Pericarp

(c) Endocarp

(d) Endosperm

Ans. (a)

44. Polygenic genes show:

(a) Different phenotype

(b) Different genotype

(c) Similar phenotype

(d) Similar genotype

Ans. (a)

45. Select the correct statement:

(a) Legumes are incapable of fixing nitrogen

(b) Legumes fix nitrogen through bacteria living in fruits root

(c) Legumes fix nitrogen only by bacteria present in nodules

(d) None of the above

Ans. (c)

BOTANY

.....----------.....

1. Hormogonia are the vegetative reproductive structures of

(a) Chlamydomonas

(b) Spirogyra

(c) Oscillatoria

(d) Ulothrix

Ans. (c)

2. Azotobacter and Beijerinckia are the examples of

(a) Symbiotic nitrogen-fixers

(b) Non-symbiotic nitrogen-fixers

(c) Ammonifying bacteria

(d) Disease causing bacteria

Ans. (b)

3. Smilax a climbing genus belongs to

(a) Cucurbitaceae

(b) Solanaceae

(c) Liliaceae

(d) Cruciferae

Ans. (c)

4. In certain parts of India, muscular dystrophy is commonly found amongst the poor people because they eat cheap pulse from the plant

(a) Pisum satiuvm

(b) Lathyrus sativus

(c) Cicer arietmum

(d) Phaseolus mungo

Ans. (b)

5. If a dwarf pea plant was treated with gibberellic acid, it became as tall, as tall pea plants. If these pea plants are crossed with pure tall pea plants, what will be the phenotypic ratio in F1 generation?

(a) All dwarf plants

(b) 50% tall and 50% dwarf plants

(c) 75% tall and 25% dwarf plants

(d) 100% tall plants

Ans. (d)

6. Coichicine is obtained from Colchicum autumnal. It belongs to family

(a) Leguminoceae

(b) Solanaceae

(c) Asteraceae

(d) Liliaceae

Ans. (d)

7. Moll's experiment explains that

(a) Carbon dioxide is essential for photosynthesis

(b) Chlorophyll and water are necessary for photosynthesis

(c) Light and water are essential for photosynthesis

(d) All of the above are correct

Ans. (a)

8. Energy transfer from one traphic level to other in a food chain is

(a) 10%

(b) 20%

(c) 1%

(d) 2%

Ans. (a)

9. Stem is reduced in

(a) Rhizome

(b) Corm

(c) Bulb

(d) Tuber

Ans. (c)

10. Heterophilly of Limnophila is

(a) Environmental

(b) Developmental

(c) Habitual

(d) Adaptive

Ans. (d)

11. Synandrous c9ndition is the fusion of

(a) Filaments only

(b) Both filaments and anthers

(c) Anthers only

(d) Petals

Ans. (b)

12. Which one yields sunn hemp?

(a) Corchorus

(b) Hibiscus-.

(c) Crotolaria

(d) Cannabis

Ans. (c)

BOTANY

13. Rod-shaped elongated thick-walled lignified dead cells found in seed coat of pulses (Legumes) are

(a) Macrosciereids

(b) Astrosclereids

(c) Brachysclereids

(d) Osteosclereids

Ans. (a)

14. Decot root having more than six vascular bundles are found in

(a) Pea

(b) Sunflower

(c) Ficus

(d) Ranunculus

Ans. (c)

15. Regulator gene controls chemical synthesis (Operon concept) by

(a) Inhibiting transcription of mRNA

(b) Inhibiting enzymes

(c) Inhibiting passage of mRNA

(d) Inhibiting substrate enzyme reaction

Ans. (a)

16. 'Illegitimate crossing over' is another term for

(a) Transition

(b) Transversion

(c) Reciprocal translocation

(d) None of the above

Ans. (c)

BOTANY

17. A substance unrelated to substrate but capable of reversibly changing activity of enzyme by binding to a site other than active site is called

(a) Competitive inhibitor

(b) Non-competitive inhibitor

(c) Catalytic inhibitor

(d) Allosteric modulator/inhibitor

Ans. (d)

18. Golgi apparatus is absent in

(a) Higher plants

(b) Yeast

(c) Bacteria and blue-green algae

(d) Liver cells

Ans. (c)

19. Which one is common amongst nucleus, chloroplast and mitochondria?

(a) Cristae

(b) Thylakoids

(c) Nucleic acid

(d) Carbohydrate metabolism

Ans. (c)

20. Sporocarp is a reproductive structure of

(a) Some algae

(b) Some aquatic ferns

(c) Angiosperms having spores

(d) Bryophytes

Ans. (b)

BOTANY

21. Pond ecosystem shows

(a) Inverted pyramid of number

(b) Inverted pyramid of biomass

(c) Upright pyramid of biomass

(d) Inverted pyramid of energy

Ans. (b)

22. Under anaerobic conditions, bacterium

Pseudomonas changes

(a) Nitrate to molecular nitrogen

(b) Nitrate to ammonia

(c) Nitrate to nitrite

(d) Nitrite to nitrate

Ans. (a)

23. Deciduous forests have

(a) Variety of grasses

(b) Broad-leaved trees

(c) narrow-leaved trees

(d) Variety of crocodiles

Ans. (b)

24. Physiologically active form of Phytochrome is

(a) P730/Fr

(b) P660/Pr

(c) P700

(d) P680

Ans. (a)

BOTANY

25. The archesporium of ovule is

(a) Single celled terminal

(b) Single celled central

(c) Single celled hypodermal

(d) Single celled lateral

Ans. (c)

.....----------.....

1. Which is correct statement?

(1) Seed can not be formed after on fertilization

(2) Seed is formed after one fertilization

(3) Seed is formed before double fertilization

(4) Fruit is produced after double fertilization

Ans. (c)

2. Hormone used in tissue culture for better growth is:

(1) Auxin

(2) Gibberellin

(3) Cytokinin

(4) Vernalin

Ans. (d)

3. Grafting is employed for better and quicker yield of varieties of:

(1) Apple

(2) Mango

(3) Citrus

(4) Tea

Ans. (a)

4. Primary root is:

(1) Positively geotropic

(2) Positive hydrotropic

(3) Negative geotropic

(4) Negative hydrotropic

Ans. (b)

5. Cholodny-Went theory is connected with:

(1) Photo morphogenesis

(2) Phototropism

(3) Nastic movement

(4) Geotropism

Ans. (c)

6. Photorespiration is related to:

(a) Chloroplast

(b) Mitochondria

(c) Peroxisome

(d) Glyoxysomes

Ans. (c)

7. 2-4-diphenoxyacetic acid is a:

(a) Herbicide

(b) Weedicide

(c) Pesticide

(d) Fungicide

Ans. (b)

8. Ergot is obtained from:

(a) Albugo

(b) Yeast

(c) Claviceps Purpurea

(d) Alternaria

Ans. (c)

9. B-DNA is:

(a) Antiparallel and right handed

(b) Antiparallel and left handed

(c) Parallel and right handed

(d) Parallel and left handed

Ans. (a)

10. Stomata in bryophytes are present in the of:

(a) Capsule

(b) Leaf

(c) Stem

(d) Seta

Ans. (a)

11. Haploid cells belong to:

(a) Integument, pollen grain, endosperm

(b) Embryo, endosperm and pollen grain

(c) Megaspore, pollen grain, antipodal

(d) Integument, pollen grain and antipodal

Ans. (c)

12. Rubber is commercially obtained from:

(a) Euphorbia

(b) Betula

(c) Hibiscus

(d) Pinus

Ans. (a)

13. Endoplasmic reticulum remain in continuation with:

(a) nucleus

(b) Ribosomes

(c) Mitochondria

(d) Golgi bodies

Ans. (a)

14. Chondriosome is discovered by:

(a) Benda

(b) Messelson

(c) Dujardin

(d) Taylor

Ans. (a)

15. The cell wall of both bacteria and cyanobactena contains:

(a) Lipid

(b) Pectin

(c) Protein

(d) muramic acid

Ans. (d)

16. Development of saprophyte from gametophyte, is called

(a) Apomixis

(b) Apospory

(c) Apogamy

(d) Dip1ospory

Ans. (c)

17. Chiropterophily is seen in:

(a) Kigelea

(b) Salvia

(c) Orchid

(d) Vallesneria

Ans. (a)

18. Thermal algae can live in:

(a) Saline soil

(b) Hot water streams of 70°C

(C) Deserts

(d) Snow balls

Ans. (b)

19. Law of limiting factor was given by:

(a) Blackman

(b) Hill

(c) Taylor

(d) Amon

Ans. (a)

20. Haploid plants can be obtained from:

(a) Leaf culture

(b) Bud culture

(c) Root culture

(d) Anther culture

Ans. (d)

21. Embryo sac represents:

(a) Megaspore

(b) Megagamete

(c) Megasporophyll

(d) megagametophyte

Ans. (d)

22. Deficiency of molybdenum causes:

(a) Wilting

(b) Mottling

(c) Reclamation

(d) Necrosis

Ans. (b)

23. The first reaction in photorespiration is:

(a) Decarboxylation

(b) Oxygenation

(c) Carboxylation

(d) Phosphorylation

Ans. (b)

24. The specific characters of C4 plant is:

(a) Bulliform cells

(b) Kranz anatomy

(c) Parallel venation

(d) Isobilateral leaf

Ans. (b)

25. The ovule in which embryo sac become horse shoe shaped in:

(a) Amphitropous

(b) Camphylotropous

(c) Orthotropous

(d) Anatropous

Ans. (a)

.....----------.....

1. Caruncle develops-from:

(a) Outer integument

(b) Ctyledon

(c) Funiculus

(d) Inner integuments

Ans. (a)

2. Aerosols having carbon and fluorine compounds are chiefly released by:

(a) Refineries

(b) Automobiles

(c) Industries

(d) Jets

3. Coir of commerce is obtained from:

(a) Endocarp of coconut

(b) Mesocarp of coconut

(c) Stem of jute

(d) Leaves of coconut

Ans. (d)

BOTANY

4. In a national park protection is provided to:

(a) Entire ecosystem

(b) Flora and fauna

(c) Fauna only

(d) Flora only

Ans. (b)

5. Morphine is obtained from:

(a) Aconitum nacelles

(b) Papaver somniferum

(c) Rauwolffia serpentine

(d) Cinchona officinalis

Ans. (b)

6. Azides and cyanide inhibit:

(a) Metaphase

(b) Prophase

(c) Anaphase

(d) Telophase

Ans. (b)

7. Cell organelle covered by single unit membrane is:

(a) Glyoxisome

(b) Lysosome

(c) Peroxisomes

(d) All of these.

Ans. (d)

8. Blue-green alga that causes red blooms is:

(a) Anabaena

(b) Gleacapsa

(c) Trichodesmium

(d) Nostoc

Ans. (c)

9. Gingerly oil (till) is got from:

(a) Linus usitatissimum

(b) Cocos nucifera

(c) Sesamum indicum

(d) Brassica rapa

Ans. (c)

10. In meios-I, the Centro mere undergoes:

(a) Division between anaphase and Interphase

(b) Division between prophase and metaphase

(c) Division but the daughter chromosomes do not separate

(d) No division

Ans. (d)

11. Prokaryotic genetic material is:

(a) Liner DNA + his tones

(b) Circular DNA + his tones

(c) Liner DNA without his tones

(d) Circular DNA without his tones

Ans. (d)

12. Mary's biological concept of species is mainly based on:

(a) Morphological traits

(b) Reproductive isolation

(c) Modes of reproduction

(d) Morphology and reproduction

Ans. (b)

13. NADH is produced in:.

(a) Photosystem-II

(b) Photosystem-I

(c) Glycolysis

(d) Both (a) and (b)

Ans. (c)

14. Abscission layer developed during leaf fall is made of:

(a) Cork cells

(b) Sclerenchymatous cells

(c) Sclerenchymatous cells

(d) Parenchymatous cells

Ans. (d)

15. The process by which the amount of DNA, RNA and protein can be known at a time is:

(a) Cell fractionation

(b) Autoradiography

(c) Phase-contrast microscopy

(d) Tissue culture

Ans. (b)

16. Retort cells are found in:

(a) Funaria

(b) Pogonatum

(c) Sphagnum

(d) Porella

Ans. (c)

17. The net gain of energy from one gram mole of glucose during aerobic respiration is:

(a) 2 ATP

(b) 4 ATP

(c) 38 ATP

(d) 40 ATP

Ans. (c)

18. Chief function of phloem is conduction of:

(a) Food

(b) Minerals

(c) Water

(d) Air

Ans. (a)

19. Pyrenoids are the centers for formation of:

(a) Proteins

(b) enzymes

(c) Fat

(d) Starch

Ans. (d)

20. Sexual reproduction in Rhizopus occurs through:

(a) Gametangial contact

(b) Gametangial copulation

(c) Planogametic copulation

(d) Spermatogamy

Ans. (b)

21. Organelles involved in photorespiration are

(a) Mitochondria, chloroplasts and ribosomes

(b) Mitochondria, Peroxisomes and chloroplasts

(c) Mitochondria, nucleus and ribosomes

(d) Mitochondria, proxisomes and glyoxisomes

Ans. (b)

22. Pith is produced by the activity of:

(a) Lateral metistem

(b) Protodern

(c) Procambium

(d) Ground meristem

Ans. (d)

23. What tissue present in leaves of Pinus conducts food and water laterally?

(a) Transfusion tissue

(b) Phloem

(c) Xylem

(d) Medullary rays

Ans. (a)

24. The site for light reaction of photosynthesis is:

(b) Grana

(b) Stoma

(c) ER

(d) Cytoplasm

Ans. (a)

25. Swollen placenta, oblique septum and conniving anthers are characteristics of family:

(a) Brassicaceae

(b) Asterácéae

(c) Poaceae

(d) Solatiaceae

Ans. (d)

26. Development of shoot and root is determined by:

(a) Cytokinin and auxin ratio

(b) Enzymes

(c) Temperature

(d) Plant nutrients

Ans. (a)

27. Pyramid of number in a grassland/true ecosystem is:

(a) Always inverted

(b) Always upright

(c) Both (a) and (b)

(d) Spindle-shaped

Ans. (b)

28. The empirical formula for chlorophyll-a is:

(a) C35 H72 O5N4 Mg

(b) C65 H70 O6N4 Mg

(c) C55 H72 O5N4 Mg

(d) C45 H70 O6N4 Mg

Ans. (c)

BOTANY

29. Which one yields oil from seeds and orange dye from petals?

(a) Helioanthus annus

(b) Calendulla officinalis

(c) Carthamus tinctorius

(d) Tagetus erecta

Ans. (c)

30. A fern differ from a moss in prossessing:

(a) Swimming/flagellated anitherozoids

(b) Flask-shaped archegonia

(c) Independent Sporophyte

(d) Independent gametophyte

Ans. (c)

31. The species of Pinus, seeds of which are edible is/ chilgoza comes from:

(a) P. roxburghii

(b) P. gerardiand

(c) P. monophylla

(d) P. sylvestris

Ans. (b)

32. A petroleum plant is:

(a) Sugarcane

(b) Maize

(c) Potato

(d) Euphorbia

Ans. (d)

33. Operon model of gene regulation and organisation of prokaryotes was proposed by:

(a) Messelson and Stahl

(b) Wilkins and Franklin

(c) Beadle and Tatum

(d) Jacob and Monod

Ans. (d)

34. Artificial ripening of fruits is accomplished by treatment with:

(a) Sodium chloride

(b) IAA

(c) Ethylene gas

(d) Kinetin

Ans. (c)

35. Individuals of species which occur in a particular area constitute:

(a) Flora

(b) Fauna

(c) Population

(d) Flora and fauna

Ans. (c)

36. Transpiration differs from evaporation in:

(a) Rate of water loss

(b) Transpiration is a physiological process while evaporation is physical process

(c) Transpiration is physical process while evaporation is physiological process

(d) Frequency of water loss

Ans. (b)

37. Arrangement of leaves on a stem branch is:

(a) Venation

(b) Venation

(c) Ptyxis

(d) Phyllotaxy

Ans. (d)

38. Water potential in leaf tissue is “positive” (near zero) during:

(a) Low transpiration

(b) Excessive absorption

(c) Excessive transpiration

(d) Gestation

Ans. (d)

39. In onion, the swollen underground structure is:

(a) Root

(b) Rhizome

(c) Bulb

(d) Tuber

Ans. (c)

40. Movement of leaves of sensitive plant, Mimosa pudica are due to:

(a) Thernonasty

(b) Seisnonasty

(c) Hydrothpism

(d) Chemo nasty

Ans. (b)

41. Fragrant flowers with well developed nectarines are an adaptation for:

(a) Zoophily

(b) Anemophily

(c) Entornophily

(d) Hydfophily

Ans. (c)

42. Cheese and yoghurt are products of:

(a) Pasteurization

(b) Fermentation

(c) Dehydration

(d) Distillation

Ans. (b)

43. Colchicines bring about:

(a) Polyploidy

(b) Cell division

(c) Cell elongation

(d) Cell differentiation

Ans. (a)

44. Cell 'A' with O.P = 10 atm and T.P =5 atm is in contact with cell 'B' having O.P = 15 atm and T.P = 12 atm. The flow of water will be:

(a) From A to B

(b) Equal flow

(c) From B to A

(d) No flow

Ans. (c)

45. Select the one, which is pitcher plant:

(a) Drosera

(b) Utricularia

(c) Sarracenia

(d) Aldrovanda

Ans. (c)

46. Nucleotide found free in the cells is:

(a) CAMP

(b) AMP

(c) ADP

(d) ATP

Ans. (d)

47. Which one does not occur is Seleaginella?

(a) Heterospory

(b) Hetorophylly

(c) Homospory

(d) Ligulate Leaves

Ans. (c)

48. Development of Sporophyte from gametophyte tissue without fusion of gametes is:

(a) Apospory

(b) Apogamy

(c) Apomixis

(d) Parthenogenesis

Ans. (b)

49. First bionisecticide developed on commercial scale was:

(a) Quinine

(b) DDT

(c) Organophosphates

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(d) Sporeine

Ans. (d)

50. Cross between hybrid and recessive parent is:

(a) Back cross

(b) Test cross

(c) Monohybrid cross

(d) Dihybrid cross

Ans. (b)

.....----------.....

1. Largest egg of plant kingdom belongs to:

(a) Cycas

(b) Pinus

(c) Psidium

(d) Mangfera

Ans. (a)

2. Air spaces are present in

(a) Hydrophytes

(b) Xerophytes

(c) Mesophytes

(d) Al1these

Ans. (a)

3. Thick cuticle, sunken stomates are found in leaves of:

(a) Hydrophytes

(c) Mesophytes

(b) Xerophytes

(d) Epiphytes

Ans. (b)

4. Cyanide resistant respiration is characteristic of:

(a) Viruses

(b) Bacteria

(c) Plants

(d) Animals

Ans. (c)

5. Which can function as carrier in active ion absorption?

(a) Feradoxin

(b) Plastoquinone

(c) Cytochrome

(d) Lecithin

Ans. (d)

6. In germinating castor seed the RQ is

(a) One

(b) More than one

(c) Less than one

(d) Infinite

Ans. (c)

7. The factor influencing process of flowerings is:

(a) Amount of chlorophyll

(b) Soil water

(c) Soil pH

(d) Photoperiod

Ans. (d)

8. The storage pathogen of rice is:

(a) Xanthomanas oryzae

(b) Helminthosporiurn oryzae

(c) Pyricularia oryzae

(d) Calanoluca oryzae

Ans. (d)

9. The study of interelationship between species and its environment of a forest is called:

(a) Autecology

(b) Syneocology

(c) Forest ecology

(d) Co-operation

Ans. (a)

10. In moss, the middle sterile part of capsule is called:

(a) Foot

(b) Protonema

(c) Columella

(d) Spore sac

Ans. (c)

11. In fern, vascular bundles are:

(a) Radial

(b) Hadrocentric

(c) Open

(d) Leptocentric

Ans. (b)

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12. Leptome is used for:

(a) Phloem

(c) Fibres

(b) Xylem

(d) Parenhyma

Ans. (a)

13. In angiosperm, triple fusion is necessary for the formation of:

(a) Embryo

(b) Pollen

(c) Endosperm

(d) Leaf

Ans. (c)

14. Colchicines prevent the spindle formation during:

(a) Prophase

(b) Metaphase

(c) Anaphase

(d) Telophase

Ans. (b)

15. Raphides are the crystals of:

(a) Calcium oxalate

(b) Calcium

(c) Calcium phosphate

(d) Calcium carbonate

Ans. (a)

16. The shade of a tree is cooler than the shade of a roof due to:

(a) Respiration

(b) Photosynthesis

(c) Transpiration

(d) Guttation

Ans. (c)

17. Which of the following shows heterothallism?

(a) Rhizopus

(b) Cycas

(c) Bacterium

(d) Ricinus

Ans. (a)

18. Casparian strips are found in:

(a) Periderm

(b) Epidermis

(c) Endodermis

(d) Hypodermis

Ans. (c)

19. The process through which the amount of DNA, RNA and protein can be known at a time is called

(a) Autoradiography

(b) Tissue culture

(c) Cellular fractioning

(d) Phase contrast microscopy

Ans. (c)

20. The formation of multivalents at meiosis in diploid organism is due to:

(a) Monosomy

(b) Delection

(c) Inversion

(d) Reciprocal translocation

Ans. (d)

21. The trees occurring in two stories is the characteristic feature of:

(a) Temperate deciduous forest

(b) Tropical savannah

(c) Grassland

(d) Coniferous forest

Ans. (a)

22. A mature ligule, having prominent basal portion, is called:

(a) Glossopodium

(b) Rhizhore

(c) Trichome

(d) None of these

Ans. (a)

23. Hormogonia are vegetative reproductive structure of:

(a) Spirogyra

(b) Ulothrix

(c) Oscillatoria

(d) Yeast

Ans. (c)

24. Which division of fungi includes ‘club fungi’?

(a) Zygomycota

(b) Ascomycota

(c) Deuteromycota

(d) Basidiomycota

Ans. (d)

25. The hypogeal germination is found in:

(a) Bean

(b) Maize

(c) Rhizophora

(d) Cucurbita

Ans. (b)

Directions: In the following questions more than one answer given may be correct select the correct answers according to the code—

Code—

(a) 1, 2 and 3 are correct

(b) 1 and 2 are correct

(c) 1, 2 and 4 are correct

(d) 1 and 3 are correct

26. Which of following matched correctly?

(1) Piper—Climbing root

(2) Ficus—Climbing root

(3) Buttress root—Bombax

(4) Vitis—Nodulated root

Ans. (d)

27. Select the correct statement:

(1) C4 pathway for. CO_2 fixation were discovered by Hatch and Slack

(2) CO_2 is essential for photosynthesis

(3) Addition of sodium carbonate in water retards photosynthetic rate in vallisneria

(4) Phloem is the principal pathway for translocation of solutes

Ans. (c)

28. Select the correct statement:

(1) Lenticel is the exit route for transpiration

(2) The action spectra of transpiration is blue and red

(3) Transpiration helps the plant to remain cool

(4) Transpiration can be measured by photometer

Ans. (c)

29. The seeds which have separate endosperm:

(1) Maize

(2) Onion

(3) Rice

(4) Bean

Ans. (a)

30. Which of the following statement is correct?

(1) The causal organism for foolish seedling disease is the source of gibberellin

(2) Abscisic acid is a growth promoter

(3) The ratio of auxin : cytokinin control cell differentiation

(4) Bolting of cabbage can be induced by treatment with IAA

Ans. (d)

31. Principal source of antibiotic is/are

(1) Streptomyces

(2) Micromonospora

(3) Rhizopus

(4) Nocardia

Ans. (c)

32. With reference to plant tissue culture select the matching pair:

(1) Sterile triploid—banana and seedless fruit

(2) Somaclonal variations—differences appearing

(3) Embryoids—non-zygatic embryo produced from somatic cells

(4) Pulses—belong to cruciferae

Ans. (a)

33. Opium alkaloids are:

(1) Codeine

(2) Diethyllysergic acid

(3) Morphine

(4) Saffron

Ans. (d)

34. In the bacteria:

(1) Mesosome is present

(2) Nucleoid represents the genome

(3) Ribosomes are found in cytoplasm

(4) Histone proteins complexed with DNA

Ans. (a)

35. Consider the following statements:

(1) Cucurbits are monoecious plant

(2) In mango, neuter, male and female and female flowers occur together

(3) Legumenous plants how unisexuality

(4) Oblique septa is found in Rosaceae

Ans. (b)

36. Consider the following statement:

(1) In plant cells, cytokinesis start with the formation of the phragmoplast

(2) Phragmoplast comprises intrazonal microtubules and Golgi vesicles

(3) Primary cell wall is produced by microtubules

(4) Phragmoplast is formed by nucleus

Ans. (a)

37. Consider the following statements:

The genetic code said to be degenerate and universal which means that,

(1) Amino afids may have more than one codon

(2) All amino acids have mo than one codon

(3) Codons are common for higher and lower organism

(4) Codons are not found in bacteria

Ans. (d)

38. Which of the following pairs are correctly matched?

(1) 700 nm—Photosystem-I

(2) 650 nm—Photosystem-II

(3) 690 nm—Photosystem-II

(4) 620 nm—Phycocyanin

Ans. (c)

39. Consider the following statements:

(1) Copper is present in cytochrome oxidane

(2) Pantothenic acid is precursor of co-enzyme-A

(3) Thiamine prohosphate is the prosthetic group in decarboxylases

(4) Zinc is present in RNA and DNA polymerases

Ans. (b)

40. Which of the following pairs are correctly matched?

(1) Fertile spike —Ophioglossum

(2) Sporangiophore—Equisetum

(3) Synangium—Psilotum

(4) Apophysis—Spirogyra

Ans. (a)

41. Consider the following statements: Marchantia polymorpha

(1) Is dioecious

(2) Possesses antheridiophores and archegoniophores

(3) Lacks foot and seta in its sporophyte

(4) Is heterosporous

Ans. (b)

42. Which of the following are true archaebacteria?

(1) Extreme halophiles

(2) Extreme thermophyles

(3) Methanogens

(4) Presence of peptidoglycan cell wall

Ans. (a)

43; Which of the following are endangered plants ?

(1) Saintpaulia ionantha

(2) Ceratozamia hildae

(3) Punica granatum

(4) Senecio hadrasomum

Ans. (c)

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44. Consider the following statement:

The ex situ conservation of genetic resources can be done through:

(1) Tissue culture practices

(2) Maintenance of sanctuaries

(3) The establishment of germplasm banks

(4) The establishment of national parks

Ans. (d)

45. Consider the following regions of India:

(1) Eastern Himalaya

(2) Eastern Ghats

(3) Western Ghats

(4) Western Himalaya

Ans. (d)

46. Consider the following statements associated with the germination of an angiospermous seed:

(1) As the seed gets hydrated and germinates, enzymatic activity is increased

(2) The respiration rate of the germinating seed increases along with the increased enzymatic activity

(3) The increase in the respiratory rate continues till senescence

(4) Rate of enzymatic activity decreases

Ans. (b)

47. Consider the following statements:

(1) The seed of pea is exalbuminous

(2) The fruit of peach is drupe

(3) The seed of tomato is albuminous

(4) The fruit of coconut is berry

Ans. (b)

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48. Consider the following statements:

(1) Cutin is a fatty acid polymer

(2) Starch is a fatty acid polymer

(3) Sucrose is monosaccharide

(4) Maltose is polymer of fructose

Ans. (b)

49. Calvin cycle is:

(1) C3 cycle

(2) Reductive pentose-phosphate cycle

(3) Common in cereals uncommon in cereals

(4) Uncommon in cereals

Ans. (c)

50. The emprical formula for chlorophyll-b is:

(a) $C_{54}\ H_{70}\ O_6\ N_4\ Mg$

(b) $C_{55}\ H_{70}\ O_6\ N_4\ Mg$

(c) $C_{55}\ H_{22}\ O_5\ N_4\ Mg$

(d) $C_{45}\ H_{72}\ O_5\ N_4\ Mg$

Ans. (b)