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BIO-BOTANY - TEXTUAL ONE MARK QUESTIONS

UNIT : 1 PLANT TAXONOMY

1. Artificial system of classification of plants was proposed by a_____
a. British botanist b. Swedish botanist c. German botanist d. Indian botanist
2. Which of the following classification is a sexual system of classification?
a. Artificial system b. Natural system c. Phylogenetic system d. Natural selection
3. The botanist who introduced binomial system is_____
a. Carolus Linnaeus b. Gaspard Bauhin c. Sir Joseph Dalton Hooker d. Adolf Engler

BENTHAM AND HOOKER SYSTEM

1. Genera plantarum of Bentham and Hooker was published in_____
a. a single volume b. two volumes c. three volumes d. four volumes
2. In Bentham and Hooker classification of plants, the present day 'orders' were referred to by them as _____a. series b. cohorts c. orders d. families
3. Plants having flowers with free petals are placed under _____-
a. Monochlamydeae b. Monocotyledons c. Gamopetalae d. Polypetalae
4. Inferae includes_____-
a. 6 orders and 34 families b. 4 orders and 23 families
c. 3 orders and 9 families d. 5 orders and 27 families
5. How many families were described by Bentham and Hooker in their classification?
a. 204 b. 212 c. 202 d. 102
6. In Bentham and Hooker's classification of plants, the present by "families" were referred to by them as_____a. families b. cohorts c. orders d. series
7. Thalamiflorae includes _____
a. 4 orders and 23 families b. 6 orders and 34 families
c. 5 orders and 27 families d. 3 orders and 12 families
8. Which one of the following series includes the epigynous flowers?
a. Thalamiflorae b. Disciflorae c. Inferae d. Heteromerae
9. The family included under the series Unisexuales is _____
a. Solanaceae b. Euphorbiaceae c. Malvaceae d. Musaceae

MALVACEAE

1. Thespesia populnea belongs to_____
a. Solanaceae b. Euphorbiaceae c. Malvaceae d. Musaceae
2. Malvaceae is placed in the series _____
a. Thalamiflorae b. Inferae c. Heteromerae d. Disciflorae
3. Anthers are monothecous in _____
a. Solanaceae b. Euphorbiaceae c. Malvaceae d. Musaceae
4. In Abelmoschus esculentus, the fruit is _____
a. drupe b. schizocarp c. regma d. loculicidal capsule
5. Binomial of lady's finger is _____
a. Hibiscus cannabinus b. Thespesia populnea
c. Gossypium barbadense d. Abelmoschus esculentus

SOLANACEAE

1. Solanaceae is placed under_____
a. Malvales b. Polemoniales c. Unisexuales d. Ranales.
2. In which of the following plants the midrib and veins are found with yellowish spines
a. Solanum melongena b. Datura metal c. Solanum xanthocarpum d. Petunia hybrida.
3. The carpels are obliquely placed in the members of _____
a. Malvaceae b. Solanaceae c. Euphorbiaceae d. Musaceae

EUPHORBIACEAE

1. Euphorbiaceae includes about _____
a. 82 genera. b. 90 genera c. 300 genera d. 254 genera.
2. Ricinus communis is a _____
a. herb b. shrub c. tree d. cladode.
3. An example of cladode is _____
a. Phyllanthus emblica b. Ricinus communis c. Jatropha curcas d. Euphorbia tirucalli.
4. In Hevea brasiliensis, the leaves are _____
a. simple b. trifoliately compound c. sessile d. palmately lobed.

MUSACEAE

1. "The bird of paradise flower" refers to_____
a. Musa paradisiacal b. Strelitzia reginae
c. Ravenala madagascariensis d. Heliconia sp.
2. The phyllotaxy in Musa is _____
a. alternate b. opposite c. distichous d. spiral
3. In inflorescence in Ravenala madagascariensis is _____
a. compound cyme b. compound raceme c. branched spadix d. simple raceme
4. The number of fertile stamens in Ravenala madagascariensis is _____
a. three b. four c. five d. six

2.PLANT ANATOMY

1. The change from meristematic tissue to permanent tissue is called _____
a. differentiation. b. self perpetuating c. photosynthesis. d. cell division.
2. The type of tissue presents in the petioles of banana and Canna is _____
a. stellate parenchyma b. prosenchyma c. aerenchyma d. chlorenchyma.
3. The tissue generally present in all organs of plant is _____
a. parenchyma b. chlorenchyma c. collenchyma d. sclerenchyma
4. The lamellar collenchyma is seen in the hypodermis of _____
a. Datura b. Helianthus c. Ipomoea d. Nicotiana
5. The root hairs are produced from _____
a. rhizodermis b. trichomes c. accessory cells d. trichoblasts
6. The osteosclereids are seen in _____
a. seed coat of Crotalaria b. see coat of Pisum c. pulp of Pyrus d. petioles of banana
7. Bicollateral vascular bundles are seen in the members of _____
a. Malvaceae b. Musaceae c. Solanaceae d. Cucurbitaceae
8. The root hairs originate from _____
a. trichoblasts b. endodermis c. hypodermis d. pericycle.
9. The casparian strips are found in the endodermis of _____
a. dicot stem b. dicot root c. monocot stem d. dicot leaf.
10. The passage cells are found in endodermis of _____
a. dicot stem b. monocot stem c. dicot root d. dicot leaf.
11. The polyarch condition is found in _____
a. monocot leaf b. dicot leaf c. dicot stem d. monocot root
12. The inner most layer of the cortex is _____
a. epidermis b. hypodermis c. endodermis d. pericycle
13. The vascular bundle with protoxylem facing centre of the stem is _____
a. exarch b. endarch c. tetrarch d. polyarch
14. When the xylem and the phloem lie in the same radius, the vascular bundle is called ____
a. conjoint b. radial c. open d. closed.
15. The vascular bundles are skull shaped in _____
a. dicot root b. monocot root c. dicot stem d. monocot stem.

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16 The protoxylem lacuna is present in the vascular bundles of _____
a. dicot root b. monocot root c. dicot stem d. monocot stem
17. Isobilateral leaf is present in _____
a. grass b. Cucurbita c. sunflower d. bean
18. The vascular bundle in the leaf is _____
a. collateral and open b. collateral and closed.
c. bicollateral and open d. collateral and exarch

3. CELL BIOLOGY AND GENETICS

1. The term chromosome was introduced by _____
a. Bridges b.Waldeyer c. Balbiani d. Flemming
2. Who had first proved that the genes are carried by the chromosome?
a. Bridges b.Waldeyer c. Balbiani d. Flemming
3. The coupling test cross ratio is _____
b. a. 1:7:7:1 b. 7:1:1:7 c. 1:1:1:1 d. 9:3:3:1
4. . Recombination of chromosome takes place in _____ stage of prophase I of meiosis.
a. leptotene b. zygotene c. pachytene d. diplotene
5. . Hugo de Vries first used the term mutation based on his observation on _____
a. Sorghum b. Neurospora c. Oenothera lamarckiana d. Cicer gigas
6. Biochemical mutants of _____ failed to synthesize certain amino acids.
a. Sorghum b. Neurospora c.. Cicer arietinum d. Cicer gigas
7. The gametes of Drosophila melanogaster carry _____
a. three chromosomes b. four chromosomes
c. seven chromosomes d. eight chromosomes
8. Nullisomy is represented by _____
a. 2n – 1 b. 2n + 1 c. 2n + 2 d. 2n – 2.
9. Double helix DNA model was proposed by _____
a. Watson and Crick b. O.T. Avery et al. c. Griffith d. Stinberg
10. The width of DNA molecule is
a. 18 Å b. 20 Å c. 34 Å d. 35 Å
11. RNA is universally present in all organisms except in _____
a. TMV b. bacteria c. algae d. DNA viruses
12. mRNA is about _____ of the RNA content of the cell
a. 10 - 20% b. 5 - 10% c. 3 - 5% d. 20 - 30%
13. In bacterial cell, there are more than _____ tRNAs
a. 200 b. 70 c. 300 d. 400

4. BIOTECHNOLOGY

1. Restriction enzymes are synthesized by _____
a. bacteria only b. yeast and bacteria only c. eukaryotic cells only d. all kinds of cells
2. Each restriction enzyme cleaves a molecule only at _____
a. the ends of genes b. methyl groups
c. nucleotide sequence d. the time of DNA replication
3. One of the following process is employed to introduce a foreigngene into a cell _____
a. electrolysis b. electroporation c. plasmid d. ligation
4. The number of transgenic plants available to-day are approximately _____
a. six b. two c. twelve d. fifty
5. A toxic protein called delta endotoxin is insecticidal and it is produced by _____
a. Escherichia coli b. Streptomyces griseus c. Bacillus thuringiensis d. Bacillus lactii
6. Pseudomonas putida is a engineered bacterium that can _____
a. produce a hormone b. produce a antibiotic c. digest crude oil slick d. pollute the soil

7. The inherent potential of any living plant cell to develop intoentire organism is called _____
a. differentiation b. organogenesis c. morphogenesis d. totipotency
8. The function of cytokinin is to increase _____
a. cell elongation b. fruit initiation c. cell division d. differentiation
9. By the application of tissue culture, one important product is formed _____
a. artificial synthetic seeds b. many seeded fruit
c. triploid endosperm d. induction of flowers
10. The two protoplasts are fused with a fusogen called _____
a. polyethylene glycol (PEG) b. Polyvinyl chloride (PVC)
c. Polyethane glycol (PEG) d. Phosphoric ethane
11. Somatic hybrids are produced through _____
a. asexual fusion b. protoplasmic fusion c. vegetative propagation d. grafting
12. One of the following organism is a SCP _____
a. Nostoc b. Rhizobium c. Mushroom d. Spirulina
13. Enriched vitamin tablets are produced from the following organism for human consumption
a. Nostoc b. yeast c. Mushroom d. Spirulina

5. PLANT PHYSIOLOGY

1. Photosynthesis takes place in_____
a. mitochondria b. peroxisomes c. chloroplasts d. ribosomes
2. During cyclic electron transport, which one of the following is produced_____
a. $NADPH_2$ only b. ATP only c. $NADH_2$ only d. both ATP and $NADPH_2$
3. Which one of the following is a five carbon compound?
a. fructose b. erythrose c. ribose d. DHAP
4. Which one of the following is a C_4 plant?
a. rice b. wheat c. sugarcane d. potato
5. The essential component for the formation of chlorophyll
a. Mg b. Fe c. Cl d. Mn
6. The pigment which is highly efficient in absorbing solar energy is_____
a. phycobilins b. chlorophyll c. carotinoids d. xanthophyll
7. Which of the following bacterium oxidizes ammonia to nitrate
a. Nitrosomonas b. Rhizobium c. Closteridium d. E. coli
8. Which of the following is a total parasite
a. Cuscuta b. Viscum c. Drosera d. Monotropa
9. Which of the following wavelengths of light is most effective for photosynthesis_____
a. 100 nm to 200 nm b. 200 nm to 300 nm c. 400 nm to 700 nm d. 700 nm to 900 nm
10. Dark respiration is the function of _____
a. peroxisomes b. mitochondria c. chloroplast d. ribosomes
11. The gas evolved during photosynthesis is_____
a. carbondioxide b. nitrogen c. hydrogen d. oxygen
12. Dark reaction is also known as _____
a. Krebs cycle b. Calvin cycle c. pentosephosphate pathway d. photorespiration
13. C_4 pathway is otherwise known as _____
a. EMP pathway b. Hatch-Slack pathway c. photorespiration d. electron transport chain
14. Photorespiration is otherwise called as _____
a. C_2 cycle b. C_3 cycle c. C_4 cycle d. C_5 cycle
15. An example for insectivorous plant is_____
a. Drosera b. Viscum c. Monotropa d. Vanda
16. Which of the following is regarded as primary pigment?
a. Carotenoid b. Xanthophyll c. Chlorophyll 'a' d. Chlorophyll 'b'

17. The dark reactions of photosynthesis were discovered by _____
a. Embden and Meyer b. Melvin Calvin c. Krebs d. Parnas
18. Which of the following is a 5C compound?
a. Glucose b. Fructose c. Phosphoglyceric acid d. RuBP
19. In C_3 plants light reactions and dark reactions occur in_____
a. bundle sheath cells b. mesophyll cells c. epidermal cells d. vascular cells
20. In C_3 pathway acceptor molecule of CO_2 is _____
a. Phosphoenol pyruvate b. RuBP c. PGA d. DHAP
21. Which of the following is not a C_4 plant?
a. Maize b. Tribulus c. Amaranthus d. Wheat
22. Vanda plant is a/an _____
a. total parasite b. partial parasite c. epiphyte d. saprophyte
23. The reducing power produced in the light reaction is _____
a. NADP b. ATP c. ADP d. $NADPH_2$
24. Which of the following is not accessory pigments?
a. Phycobilins b. Chlorophylls c. Carotenoids d. Xanthophylls
25. The photosynthetic pigments are located in _____
a. Cristae b. Cisternae c. Thylakoid d. Stroma

Respiration

1. Which of the following is the common respiratory substrate?
a. Proteins b. Lipids c. Carbohydrates d. Vitamins
2. The number of high energy terminal bonds present in ATP is _____
a. one b. two c. three d. four
3. The first step in aerobic respiration is _____
a. glycolysis b. Krebs cycle c. terminal oxidation d. cyclic photophosphorylation
4. Glucose is phosphorylated to glucose-6-phosphate by the enzyme_____
a. aldolase b. enolase c. pyruvic kinase d. hexokinase
5. Fructose 1,6-bisphosphate is cleaved to two molecules of 3 carbon compounds by _____
a. aldolase b. enolase c. pyruvic kinase d. hexokinase
6. Cisaconitic acid is converted into isocitric acid by the addition of a molecule of water. This reaction is catalyzed by _____
a. citric acid synthetase b. fumarase c. malic dehydrogenase d. aconitase
7. Complete oxidation of one molecule of glucose yields _____
a. 38 ATP b. 36 ATP c. 35 ATP d. 2 ATP
8. Oxidative decarboxylation of pyruvic acid is catalysed by_____
a. pyruvic dehydrogenase b. pyruvic kinase c. pyruvic mutase d. pyruvic isomerase
9. a - ketoglutaric acid is a _____ carbon compound
a. two b. three c. four d. five
10. Glucose is phosphorylated to glucose-6-phosphate by_____
a. aldolase b. kinase c. mutase d. hexokinase
11. Respiratory quotient of glucose is_____
a. zero b. unity c. more than one d. less than one
12. One molecule of $FADH_2$ on oxidation yields _____
a. one ATP b. two ATP c. three ATP d. four ATP
13. One molecule of $NADH_2$ on oxidation yields _____
a. one ATP b. two ATP c. three ATP d. four ATP
14. Formation of ATP during electron transport chain is known as _____
a. dephosphorylation b. phtophosphorylation
c. oxidative phosphorylation d. substate level phosphorylation
15. Which of the following is referred to as EMP pathway?
a. Glycolysis b. Krebs cycle c. Electron transport chain d. Pentose phosphate pathway

16. The total amount of energy released from one molecule of glucose on oxidation is about___
a. 1600 kJ b. 2300 kJ c. 2500 kJ d. 2900 kJ
17. Which of the following is a 5C compound?
a. Phosphoglyceraldehyde b. Erythrosephosphate
c. Xylulose phosphate d. Sedoheptulose phosphate

GROWTH

1. Which one of the following plant hormones was first discovered?
a. Auxin b. Gibberellin c. Cytokinin d. Ethylene
2. An example for synthetic auxin is_____
a. IAA b. PAA c. ABA d. NAA
3. Apical dominance is due to _____
a. ethylene b. auxin c. gibberellin d. cytokinin
4. Bakanae disease in paddy is caused by _____
a. abscissic acid b. phenyl acetic acid c. naphthelene acetic acid d. gibberellic acid
5. In sigmoid curve the rapid growth phase is designated as_____
a. lag phase b. log phase c. dormant phase d. steady state phase
6. Auxin prevents _____
a. apical dominance b. ageing process c. parthinocarpy d. abscission
7. “Foolish seedling” disease of rice is caused by _____
a. auxin b. gibbrellins c. cytokinin d. abscisic acid
8. Closure of stomata is caused by _____
a. auxin b. gibbrellins c. cytokinin d. abscisic acid
9. The chemical used in the field to eradicate weeds is_____
a. 2, 4 - D b. IAA c. ABA d. urea
10. Abscission is prevented by _____
a. Auxin b. Gibberellin c. Cytokinin d. Ethylene
11. The response of a plant to the relative lengths of light and dark periods is known as _____
a. vernalization b. photorespiration c. photosynthesis d. photoperiodism
12. Photoperiodic response in flowering was first observed in _____
a. wheat b. Maryland Mammoth c. Oats d. Chrysanthemum
13. Which of the following is a short day plant?
a. wheat b. tobacco c. sunflower d. maize
14. Which of the following is a long day plant?
a. tobacco b. sunflower c. maize d. wheat

6. BIOLOGY IN HUMAN WELFARE

1. Which pathogen causes the blast disease of rice?
a. Cercospora personata b. Pyricularia oryzae c. Xanthomonas citri d. Tungro virus
2. What is the collateral host plant of Pyricularia oryzae?
a. Oryza sativa b. Digitaria marginata c. Arachis hypogea d. Citrus plant
3. Which pathogen causes Tikka disease of groundnut?
a. Cercospora personata b. Pyricularia oryzae c. Xanthomonas citri d. Tungro virus
4. Acalyphine is extracted from _____
a. Acalypha indica b. Aegle marmelos c. Cissus quadrangularis d. Mimosa pudica
5. Binomial of ‘vilvum’ is _____
a. Acalypha indica b. Aegle marmelos c. Cissus quadrangularis d. Mimosa pudica

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