

1 Mark Questions

1. Microbodies found in cells of fat-rich endosperm are known as
 - (a) peroxisomes
 - (b) glyoxysomes
 - (c) lysosomes
 - (d) sphaerosomes
2. If glucose is the sole respiratory substrate, the respiratory quotient would be
 - (a) 0.36
 - (b) 0.80
 - (c) 1.00
 - (d) 1.30
3. What role does acetosyringone play in the *Agrobacterium* mediated gene transfer?
 - (a) Induces expression of *vir* genes
 - (b) Attaches *Agrobacterium* to the plants
 - (c) Transfer T-strand to plant cells
 - (d) Induces site specific nicks in the bottom strand
4. The processes of guttation in plants usually takes place through certain specialised structures known as
 - (a) hydathodes
 - (b) nectar glands
 - (c) stomata
 - (d) trichomes
5. Which of the following amino acids is unable to form a proper peptide bond?
 - (a) Valine
 - (b) Cysteine
 - (c) Arginine
 - (d) Proline
6. DMSO (Dimethyl sulphoxide) is used as
 - (a) osmoticum
 - (b) cryoprotectant
 - (c) gelling agent
 - (d) chelating agent
7. Random change in gene and genotype frequencies in small population is termed as
 - (a) genetic load
 - (b) genetic advance
 - (c) genetic equilibrium
 - (d) genetic drift
8. Indicate the theory among the following that relates to "ontogeny repeats phylogeny".
 - (a) Theory of clonal selection
 - (b) Theory of natural selection
 - (c) Theory of recapitulation
 - (d) Theory of speciation
9. The enzyme responsible for movement of genetic element around the genome is
 - (a) DNA helicase
 - (b) primase
 - (c) transposase
 - (d) reverse transcriptase
10. Which of the following seed is used for commercial crop production?
 - (a) Breeders seed
 - (b) Certified seed
 - (c) Foundation seed
 - (d) Registered seed
11. Food web is a
 - (a) series of producers
 - (b) series of consumers
 - (c) collection of producers and decomposers
 - (d) matrix of food chain
12. A plant cell where nucleus is absent?
 - (a) Sieve tube cell
 - (b) Guard cell
 - (c) Cambium cell
 - (d) Companion cell
13. Which of the following phytohormone induces fruit ripening?
 - (a) Ethylene
 - (b) Abscisic acid
 - (c) Zeatin
 - (d) Gibberellins
14. Corn (*Zea mays*) has a diploid number of 20. The chromosome number in a microspore mother cell would be
 - (a) 10
 - (b) 20
 - (c) 30
 - (d) 40
15. Among the followings which one is single membrane organelle?
 - (a) Chloroplast
 - (b) Nucleus
 - (c) Lysosome
 - (d) Mitochondria

16. Which one of the following statements about hexose monophosphate shunt is not true?
- (a) Major means in the cell by which reduced NADP is produced
 - (b) Major pathway by which necessary ribose and deoxyribose are supplied in the biosynthesis of nucleotides and nucleic acid
 - (c) This pathway takes place in cytoplasm and requires oxygen for its entire operation
 - (d) It leads to synthesis of 28 molecules of ATP
17. A mechanism that can cause a gene to move from one linkage group to another is
- (a) translocation
 - (b) inversion
 - (c) duplication
 - (d) deletion
18. An amino-acyl synthetase is responsible for
- (a) formation of a peptide bond
 - (b) binding of mRNA to ribosomes
 - (c) attaching an amino group to an organic acid
 - (d) joining an amino acid tRNA
19. How many different kinds of matings can be made in a population containing two alleles?
- (a) 4
 - (b) 6
 - (c) 8
 - (d) More than 8
20. Red rot of sugarcane is caused by
- (a) *Claviceps purpurea*
 - (b) *Cochliolobus miyabeanus*
 - (c) *Colletotrichum falcatum*
 - (d) *Cercospora personata*
21. Mangroves are specially adapted to aquatic ecosystem because of the presence of
- (a) pneumatophores
 - (b) distinct aqueous tissue in leaves
 - (c) vivipary
 - (d) All of the above
22. Which of the following should be considered a model plant for investigation in molecular genetics?
- (a) *Allium cepa*
 - (b) *Haplopappus gracilis*
 - (c) *Arabidopsis thaliana*
 - (d) *Rheo discolor*
23. The physiologically receptor state in which a bacterial cell is able to be transformed is called
- (a) lysogenic
 - (b) competent
 - (c) sensitised
 - (d) inducible
24. The type of inflorescence found in *Ficus* species is
- (a) cyathium
 - (b) verticillaster
 - (c) hypanthodium
 - (d) coenanthium
25. Photooxidation of chlorophyll is prevented by
- (a) carotenoid
 - (b) anthocyanin
 - (c) phycobilin
 - (d) fucoxanthin