

Study Questions

1. Which of the following pairs are anomers?
 - a) Ribose and Ribulose
 - b) Glucose and mannose
 - c) Pyruvate lactate
 - d) α -D-glucose and β -D-glucose
2. Hybridoma technology is used in the production of
 - a) mRNA
 - b) Monoclonal serum
 - c) Monoclonal antibodies
 - d) Polyclonal antibodies
3. For mitochondrial structure and function mt-DNA specifies
 - a) 10%
 - b) 20%
 - c) 30%
 - d) 40%
4. Which of the following reagent is useful for visualizing DNA?
 - a) Uracil
 - b) DNA polymerase
 - c) Diphenylamine
 - d) Ethidium bromide
5. Homologous pairs line up along equatorial plane during
 - a) Anaphase II
 - b) Metaphase I
 - c) Telophase
 - d) Interphase
6. Between mitotic divisions, the cell is in
 - a) G₀
 - b) G₁
 - c) G₂
 - d) S phase
7. Most plant cells are surrounded by a rigid cell wall made primarily of
 - a) Monosaccharides
 - b) Pectin
 - c) Chitins
 - d) Polysaccharides
8. The organelle that functions in the breakdown of cells and tissues is the
 - a) Episomes
 - b) Mitochondrion
 - c) Centrosomes
 - d) Lysosomes
9. Endoplasmic reticulum
 - a) Is found only in animals
 - b) is a system of membrane bound channels
 - c) is called rough if mitochondria is attached to it
 - d) is a site of ATP production
10. "9+2" describes the basic structure of which of the following one
 - a) chromosome
 - b) Basal body

- c) Chloroplast
 - d) Flagellum
11. The function of nucleus includes
- a) Cellular respiration
 - b) Synthesis of proteins
 - c) Housing the hereditary information
 - d) Synthesis of carbohydrates
12. Baculoviruses
- a) RNA viruses
 - b) DNA viruses
 - c) Both a and b
 - d) None of the above
13. Secondary metabolites like antibiotics are not essential for
- a) Log phase growth
 - b) Exponential growth
 - c) Both a and b
 - d) None of these
14. The restriction enzymes useful to the molecular biologist belongs to
- a) Type I
 - b) Type II
 - c) Type III
 - d) Type IV
15. Which of the following vector is suitable for DNA sequencing
- a) EMBL
 - b) PBR 322
 - c) M 13
 - d) Lambda
16. During which process, the free end of the chromosome moves from Hfr donor in to the F cell across an intracellular bridge called pili
- a) Transformation
 - b) Transduction
 - c) Conjugation
 - d) All of these
17. Francis Jacob and Monod Proposed
- a) Lock and Key Hypothesis
 - b) Gene for Protein Synthesis
 - c) Operon Synthesis
 - d) Gene for protein synthesis
18. State which of the following is not a desired characteristic of a vector?
- a) Unique restriction site
 - b) Large Size
 - c) Gene that confer antibiotic resistance
 - d) Autonomous replication
19. Which of the following is a carrier hosts for new genes?
- a) EcoRI
 - b) Bacteriophages
 - c) Nucleus
 - d) Transplanted Organs
20. Which of the following chemical is used for preparation of competent cell?
- a) HCl

- b) NaCl
 - c) CaCl₂
 - d) Glycine
41. Pure line theory was given by
- a) Bateson
 - b) Johansson
 - c) Mendel
 - d) Morgan
42. Which of the following enzyme is used for making cDNA
- a) DNA ligase
 - b) Taq polymerase
 - c) Restriction enzyme
 - d) Reverse transcriptase
43. The chemical used as an inducer of the vir operons is
- a) Kanamycin
 - b) Hygromycin
 - c) Pencillin
 - d) Acetosyringone
44. "9+2" describes the basic structure of which of the following one
- a) Chloroplast
 - b) Flagellum
 - c) Mitochondria
 - d) Lysosome
45. The organelle that functions in the breakdown of cells and tissues is the
- a) Centrosomes
 - b) Centriole
 - c) Lysosome
 - d) Liposome
46. An example for naturally occurring Auxin
- a) IAA
 - b) ABA
 - c) BAP
 - d) 2, 4-D
47. A general method to confirm expression of transgene at translation level is
- a) western blotting
 - b) northern blotting
 - c) eastern blotting
 - d) southern blotting
48. The browning of culture medium induced by some explants can be prevented by the addition of
- a) GA
 - b) 2-4-D
 - c) IBA
 - d) PVP (polyvinyl pyrrolidone)
49. Which of the following is not used as a cryoprotectant
- a) glycerol
 - b) DMSO
 - c) polyclar
 - d) PEG
50. Anther culture provide a method for the production of

- a) polyploidy
 - b) heterozygous line
 - c) apomictic line
 - d) homozygous line
51. The first stable product of photosynthesis
- a) glucose
 - b) DHAP
 - c) RUBP
 - d) 3PGA
52. Oxidation of water during photosynthesis involves
- a) PSI
 - b) PS II
 - c) both
 - d) none of the above
53. Which one of the following chemical causes frame shift mutation
- a) 2-amino purine
 - b) hydroxylamine
 - c) 2 bromo uracil
 - d) acridine orange
54. The restriction enzyme useful to the molecular biologist belongs to
- a) Type I
 - b) Type II
 - c) Type III
 - d) both a and b.
55. A good molecular marker must be
- a) polymorphic
 - b) heritable
 - c) both a and b
 - d) none
56. Shotgun approach is used in
- a) gene mapping
 - b) DNA sequencing
 - c) gene transformation
 - d) genomic library
57. The length of Okazaki fragments in E.coli are about
- a) 100-200 nucleotides
 - b) 500-1000 nucleotides
 - c) 1000-2000 nucleotides
 - d) 10000-100000 nucleotides
58. The sigma factor of RNA polymerase in E.coli involved
- a) RNA synthesis
 - b) promoter binding
 - c) transcription initiation
 - d) binding with template DNA
59. The Casparian stripes is present in
- a) epidermis
 - b) endodermis
 - c) cortex
 - d) root hair
60. Flavr Savr is a variety of

- a) potato
- b) tomato
- c) pomato
- d) avocado

