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CHAPTER 10 - BIOTECHNOLOGY

1. PCR is a technique used to:
   1. Isolate DNA from cells
   2. Make copies of DNA
   3. Separate DNA fragments
   4. Introduce DNA in another organism
2. Why is a detergent used when DNA is isolated/extracted from cells:
   1. To break cell membrane
   2. To destroy other molecules
   3. To eliminate cell’s debris
   4. To pellet the DNA
3. To make DNA insoluble in the extraction process \_\_\_\_\_\_ is used:
   1. Detergent
   2. Ethanol
   3. Proteases
   4. RNAases
4. Gel electrophoresis is used to:
   1. Isolate DNA from cells
   2. Make copies of DNA
   3. Separate DNA fragments
   4. Introduce DNA in another organism
5. In a DNA gel, the DNA pieces migrate:
   1. To the + pole
   2. To the – pole
   3. To both poles
   4. To the middle
6. In a DNA gel, the smaller DNA pieces are found:
   1. Ahead of large pieces
   2. Behind larger pieces
   3. Same position as larger pieces
   4. Between larger pieces
7. In a DNA gel you can see DNA because:
   1. It is big enough
   2. It is colored
   3. It is fluorescent
   4. It is white on black gel
8. The first step in PCR is:
   1. Strand separation
   2. Nucleotide addition
   3. Polymerase addition
   4. RNA addition
9. In molecular cloning the foreign DNA is attached to the bacterial vector DNA by:
   1. DNA ligase
   2. Restriction enzymes
   3. Antibiotics
   4. DNA polymerase
10. In molecular cloning the DNA sticky ends are created by:
    1. DNA ligase
    2. Restriction enzymes
    3. Antibiotics
    4. DNA polymerase
11. In molecular cloning the bacterial DNA vector contains:
    1. DNA ligase
    2. Restriction enzymes
    3. Antibiotics resistance gene
    4. DNA polymerase
12. Choose the correct statement related to the screening of the bacterial colonies:
    1. Blue color colony – means it has the insert
    2. A growing colony – means it has the insert
    3. White color colony – means it has the insert
    4. Yellow color colony – means it doesn’t have the insert
13. In DOLLY reproductive cloning example, the donor nucleus is:
    1. Haploid
    2. Diploid
    3. Hemiploid
    4. Tetraploid
14. In DOLLY reproductive cloning example, the donor cytoplasm is from:
    1. egg
    2. sperm
    3. cancer cell
    4. ovary cell
15. Replacing an abnormal gene with a normal gene is called:
    1. Gene diagnosis
    2. Gene testing
    3. Gene therapy
    4. Gene transgene
16. To replace an abnormal gene with a normal one, a vector made of \_\_\_\_\_ is used:
    1. Bacterial DNA
    2. Viral DNA
    3. Human DNA
    4. Insect DNA
17. What is used as a visual marker for successful gene transfer into transgenic animals:
    1. GMO
    2. BRCA-gene
    3. Fluorescence gene
    4. Adenovirus
18. Mass-spec is used for:
    1. Proteomics
    2. Genomics
    3. PCR
    4. Electrophoresis
19. A biomarker is related to:
    1. Genomics
    2. Proteomics
    3. Genetic maps
    4. Physical map