

**Topic :- Biotechnology Principles & Processes**

- A technology which has found immense use in solving cases of disputed parentage is:
  - DNA fingerprinting
  - Polymerase chain reaction
  - Recombinant DNA technology
  - Monoclonal antibody production
- The most important feature in a plasmid to be used as a vector is
  - Origin of replication
  - Presence of a selectable marker
  - Presence of sites for restriction endonuclease
  - Its size
- DNA gyrase, the enzyme that participates in the process of DNA replication is a type of
  - DNA ligase
  - DNA polymerase
  - DNA topoisomerase
  - Reverse transcriptase
- Abnormal gene is replaced by normal gene through:
  - Gene therapy
  - Medicines
  - Cloning
  - Radiation
- The key tools required for the recombinant DNA technology are
  - restriction enzymes
  - Polymerase enzymes
  - host organism ligases
  - Vectors
  - host organismsSelect the correct option
  - I, II and III
  - I, III, IV and V
  - I, II, III and V
  - I, II, III, IV and V
- A tumour inducing plasmid widely used in the production of transgenic plants is that of:
  - Escherichia coli*
  - Bacillus thuringiensis*
  - Staphylococcus aureus*
  - Agrobacterium tumefaciens*
- Which one of the following palindromic base sequences in DNA can be easily cut at about the middle by some particular restriction enzyme?
  - 5' \_\_\_\_\_ GATATG \_\_\_\_\_ 3'  
3' \_\_\_\_\_ C TACTA \_\_\_\_\_ 5'
  - 5' \_\_\_\_\_ GAATTC \_\_\_\_\_ 3'  
3' \_\_\_\_\_ C TTAAG \_\_\_\_\_ 5'
  - 5' \_\_\_\_\_ CACGTA \_\_\_\_\_ 3'  
3' \_\_\_\_\_ C TCAGT \_\_\_\_\_ 5'



17. There is a restriction endonuclease called *EcoRI*. What does “co” part in it stand for?  
a) Coli                                      b) Coelom                                      c) Coenzyme                                      d) Colon
18. Which of the following would have the highest oxygen transfer rate characteristics?  
a) A sparged stirred tank bioreactor being stirred at 200 RPM  
b) A non-sparged stirred tank bioreactor being stirred at 200 RPM  
c) A shake flask being mixed at 200 RPM  
d) All of the above would have equivalent oxygen transfer rate characteristics
19. Enzymes breaking nucleic acids into nucleotides are called:  
a) Hydrolases                                      b) Amylases                                      c) Nucleic acidases                                      d) Nucleases
20. Palaeontologists unearthed a human skull during excavation. A small fragment of the scalp tissue was still attached to it. Only little DNA could be extracted from it. If the genes of the ancient man need to be analysed, the best way of getting sufficient amount of DNA from this extract is  
a) By hybridizing the DNA with a DNA probe  
b) By subjecting the DNA to polymerase chain reaction  
c) By subjecting the DNA to gel electrophoresis  
d) By treating the DNA with restriction endonucleases

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