

- b) Formation of hydrogen bonds between sticky ends of DNA fragments
 c) Ligation of all purine and pyrimidine bases
 d) None of the above
9. Transgenic animals are produced by injecting foreign gene into the:
 a) Egg
 b) Nucleus of unfertilized egg
 c) Nucleus of fertilized egg
 d) Nucleus of sperm
10. Clonal cell lines can be obtained by:
 a) Autoradiography b) Tissue culture c) Centrifugation d) Cell fractionation
11. Electroporation procedure involves:
 a) Fast passage of food through sieve pores in phloem elements with the help of electric stimulation
 b) Opening of stomatal pores during night by artificial light
 c) Making transient pores in the cell membrane to introduce gene constructs
 d) Purification of saline water with the help of a membrane system
12. Which of the following is associated with genetic engineering?
 a) Plastids b) Plasmids c) Mutations d) Hybrid vigour
13. Biolistics (gene gun) is suitable for
 a) Disarming pathogen vectors b) Transformation of plants cells
 c) Construction recombinant DNA by joining with vectors d) DNA fingerprinting
14. Which of the following statements are correct for the enzyme *taq* polymerases?
 I. *Taq* polymerase is thermally unstable
 II. It requires primers for carrying out the process of polymerization
 III. *Taq* polymerase is isolated from thermophilic bacterium, *Thermus aquaticus*
 Choose the correct option
 a) I and II b) I and III c) II and III d) I, II and III
15. EFB stands for
 a) European Federation of Biotechnology b) Eurasian Federation of Biotechnology
 c) East Asia Federation of Biotechnology d) Ethiopian Federation of Biotechnology
16. The commonly used DNA fingerprinting technique in forensic studies is simply a method involving
 a) Southern blotting b) Northern blotting c) Eastern blotting d) Western blotting
17. *Cry I* endotoxins obtained from *Bacillus thuringiensis* are effective against
 a) Nematodes b) Bollworms c) Mosquitoes d) Flies
18. In the naming of restriction enzymes the first letter is derived from ...A... name and next two letters from

the ...B... and fourth letter from ...C... of ...D... where the enzymes are extracted

A to D in the statement can be

A B C D

a) Genus species strain bacteria

b) Species genus strain bacteria

c) Genus species variety eukaryote

d) Species genus variety eukaryote

19. Which of the following techniques is most commonly used to separate DNA molecules by size?

a) Chromatography

b) PCR

c) RFLP

d) Gel electrophoresis

20. Which one of the following scientists got the Nobel Prize for his invention polymerase chain reaction (PCR)?

a) F. Sanger

b) Paul Berg

c) Alec Jeffreys

d) Kary B. Mullis

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