

Topic :- Biotechnology & It's Applications

- Which one of the following molecular diagnostic technique is used to detect the presence of a pathogen in its early stage of infection?
a) Angiography
b) Radiography
c) Enzyme replacement technique
d) Polymerase Chain Reaction (PCR)
- First hormone prepared by genetic engineering is
a) Oxytocin
b) Somatotropin
c) Adrenaline
d) Insulin
- First hormone produced artificially by culture bacteria, is
a) Insulin
b) Thyroxine
c) Testosterone
d) Adrenaline
- In transgenics, expression of transgene in target tissue is determined by
a) Enhancer
b) Transgene
c) Promoter
d) Reporter
- Genomic DNA library means
a) A collection of literature about DNA
b) A collection of organisms for extracting DNA
c) Packing of donor DNA in a collection of vectors
d) A collection of gene vectors
- The characteristics of a molecular probe are
I. Very long molecule
II. Double-stranded
III. DNA or RNA
IV. Complementary to a part of desired gene
The correct pair is
a) I and II
b) II and III
c) III and IV
d) IV and I
- A monopoly granted to a person who has either invented a new and useful article, made improvement in an existing article or invented a new process of making an article is called
a) Bioethics
b) Patent
c) Biopiracy
d) Genetic recombination
- Choose the correct option about agrochemicals
a) These are expensive for farmers in developing countries
b) Also have harmful effects on environment

- c) Genetically modified crops are less expensive than agrochemicals
d) All of the above
9. Some organisations and multinational companies patent biological resources of other nations without proper authorization from the countries concerned, this is called
a) Bioweapon b) Biopiracy c) Bioethics d) Bio patient
10. Which one of the following is a 'man made cereal' not found in nature?
a) *Triticale* b) Hybrid maize c) Dwarf wheat d) Soyabean
11. What is the demerit of using bovine insulin (from cow) and porcine insulin (from pig) in diabetic patients?
a) It leads to hypercalcemia
b) It is expensive
c) It may cause allergic reactions
d) It may lead to mutations in human genome
12. The tumour inducing capacity of *Agrobacterium tumefaciens* is located in large extra chromosomal plasmids called
a) R_i – plasmid b) Lambda phage c) pBR 322 d) T_i – plasmid
13. Choose the correct options about Basmati rice
I. In 1997, an American company got patent rights for Basmati rice through the US Patent and Trademark office and was allowed to sell a 'new variety' in US and abroad
II. This new variety of Basmati was derived from Chinese farmer's varieties
III. Indian Basmati was crossed with semidwarf varieties and claimed as an invention or a novelty
Which of the above statements are correct?
a) I and II b) I and III c) II and III d) I, II and III
14. Genetically engineered human insulin, humulin was launched by American drug company on
a) 5th July 1998 b) 5th July 1993 c) 5th July 1973 d) 5th July 1983
15. Which of the following is not a restriction endonuclease?
a) *Eco*RI b) *Hind*III c) *Pst*I d) DNase I
16. The totipotency of a cell refers to the
a) Flowering in a culture medium
b) Development of fruit from a flower in a culture medium
c) Development of an organ from a cell in culture medium
d) Development of all tissues of all kinds from a cell in a culture medium
17. The anticoagulant hirudin is obtained from
a) Ti plasmid of *Agrobacterium* b) Bt toxin produced by cry gene
c) Seeds of *Brassica napus* d) None of the above

18. Restriction enzymes are used to cut
- a) Single stranded RNA
 - b) Double stranded DNA
 - c) Single stranded DNA
 - d) Double stranded RNA
19. When a person with defective Adenosine Deaminase (ADA) was treated, which of the following steps were performing for gene therapy?
- I. Lymphocytes were extracted from the bone marrow of the patient
 - II. Lymphocytes were grown in a culture out side the body
 - III. Lymphocytes were transfected with the normal ADA genes
 - IV. The transfected cells were returned to the patients
- a) I, II and III
 - b) I, III and IV
 - c) II, III and IV
 - d) I, II, III and IV
20. DNA or RNA segment tagged with a radioactive molecule is called
- a) Vector
 - b) Probe
 - c) Clone
 - d) Plasmid

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