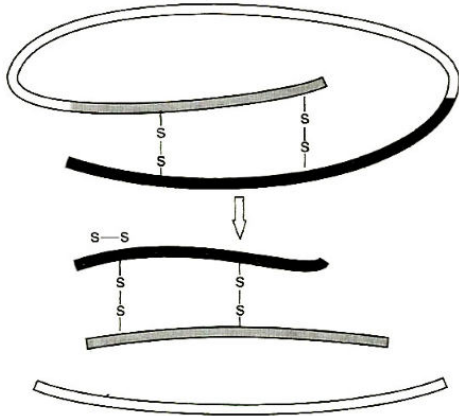


Topic :- Biotechnology & It's Applications

- Which one of the following palindromic base sequences in DNA can be easily cut at about the middle by some particular restriction enzyme?
a) 5' - CGTTCG - 3' b) 5' - GATATG - 3' c) 5' - GAATTC - 3' d) 5' - CACGTA - 3'
3' - ATCGTA - 5' 3' - CTAATA - 5' 3' - CTTAAG - 5' 3' - CTCAGT - 5'
- Crop plants grown in monoculture are
a) Low in yield b) Free from intraspecific competition
c) Characterized by poor root system d) Highly prone to pests
- Agrochemical based agriculture includes
a) Fertilisers and pesticides b) Genetically modified crops
c) RNA interference d) DNA interference
- An improved variety of transgenic basmati rice
a) Does not require chemical fertilizers and growth hormones
b) Gives high yield and is rich in vitamin-A
c) Is completely resistant to all insect pests and diseases of paddy
d) Gives high yield but has no characteristic aroma
- Plants are more rapidly manipulated by genetic engineering than animals due to
a) Single somatic cell, which can regenerate a whole plant body
b) A group of somatic cells, which can regenerate a whole plant body
c) May be (a) or (b)
d) None of the above
- Test tube baby means, a baby born when
a) The ovum is fertilized externally and thereafter implanted in the uterus
b) It develops from a non-fertilized egg
c) It is developed in a test-tube
d) It is developed through tissue culture method
- 'Silencing of mRNA molecule' in order to control the production of a harmful protein has been used in the protection of plants from
a) Beetles b) Armyworm c) Budworm d) Nematodes

8. *Bt* corn has been made resistant from corn borer disease by the introduction of the gene
a) *CryI Ac* b) *CryII Ab* c) *CryI Ab* d) *CryII Ac*
9. Genetically engineered bovine (bST), sometimes called rbST (recombinant bovine somatotropin) or rbGH (recombinant bovine growth hormone) are used in the
a) Therapeutic drugs b) Agriculture c) Dairy industry d) DNA fingerprinting
10. Which one of the following is a correct statement?
a) '*Bt*' in '*Bt* cotton' indicates that it is a genetically modified organism produced through biotechnology
b) Somatic hybridization involves fusion of two complete plant cells carrying desired genes
c) The anticoagulant hirudin is being produced from transgenic *Brassica napus* seeds
d) '*Flavr savr*' variety of tomato has enhanced the production of ethylene, which improves its taste
11. Biopatents means
a) Right to use an invention b) Right to use biological resources
c) Right to use applications d) Right to use processes
12. A USA patent was taken for
a) Basmati rice b) Lerma Roja c) CO-668 d) Sharbati Sonara
13. Find the incorrect statement.
a) Gene therapy is a genetic engineering technique used to treat disease at molecular level by replacing defective genes with normal genes
b) Calcitonin is a medically useful recombinant product in the treatment of infertility
c) *Bt* toxin is biodegradable insecticide obtained from *Bacillus*
d) *Trichoderma* sp. is a biocontrol agent for fungal diseases of plants
14. Some of the characteristics of *Bt* cotton are
a) Long fibre and resistance to aphids
b) Medium yield, long fibre and resistance to beetle pests
c) High yield and production of toxic protein crystals which kill dipteran pests
d) High yield and resistance to bollworms
15. The below diagram shows



- a) Maturation of pro-insulin into insulin
 b) Method of pro-insulin formation
 c) Gene therapy
 d) Enzyme replacement therapy
16. Solution of polyethylene glycol (PEG) or a very brief high voltage electric current is used in fusion of
 a) Protoplasts b) Protoplasts c) Somatic cells d) Germinal cells
17. Transgenic animals are developed by
 a) Introducing foreign genes b) Introducing gene mutations
 c) Deleting certain chromosomes parts d) Stopping spindle formation
18. Correct chronological order of the steps occurring during gene therapy are
 I. Lymphocytes are obtained from the patients
 II. Lymphocytes are transferred to the culture dishes
 III. Lymphocytes are transfected with the normal ADA genes
 IV. The transfected cell are returned to the patients
 The chronological order should be
 a) I, II, III and IV b) II, I, III and IV c) I, III, II and IV d) III, II, IV and I
19. Maximum application of animal cell culture technology today is in the production of
 a) Vaccines b) Edible proteins c) Insulin d) Interferons
20. Manipulation of DNA in genetic engineering become easy due to invention of
 a) Polymerase chain reaction b) Dot blot
 c) Enzyme linked immune sorbent assay d) Eastern blotting