

Topic :- Biotechnology & It's Applications

- Cry II Ab* and *cry I Ab* produce toxins that control
 - Cotton bollworms and corn borer respectively
 - Corn borer and cotton bollworms respectively
 - Tobacco budworms and nematodes respectively
 - Nematodes and tobacco budworms respectively
- Genetically engineered bacteria are being employed for production of
 - Thyroxine
 - Human insulin
 - Cortisol
 - Epinephrine
- Micropropagation is a technique for production of
 - True type plants
 - Haploid plants
 - Somatic hybrids
 - Somaclonal plants
- Which of the following radioisotope is not suitable for DNA labeling based studies?
 - H³
 - P³²
 - N¹⁵
 - S³⁵
- Gene therapy in humans was first practiced by Blease and Andresco to cure
 - Cystic fibrosis
 - Haemophilia
 - Thalassaemia
 - Severe Combined Immuno Deficiency Disease
- For production of haploids, we culture
 - Shoot tip
 - Anther
 - Root tip
 - None of these
- Differentiation of organs and tissues in a developing organism, is associated with
 - Developmental mutations
 - Differential expression of genes
 - Lethal mutations
 - Deletion of genes
- How many varieties of rice has been estimated to be present in India?
 - 2200
 - 20000
 - 200000
 - 2000000
- Who discovered that restriction enzymes have the capability of cutting DNA strands in a particular fashion, which left what has become known as 'sticky ends' on the strads?
 - Ramdeo Mishra
 - Stanley Cohen
 - Herbert Boyer
 - James D Watson

10. A cybrid is hybrid carrying
- Genomes and cytoplasms of two different plants
 - Cytoplasms of two different plants
 - Cytoplasms of two different plants but genome of one plant
 - Genomes of two different plants
11. Which of the following is correctly matched?
- | | | |
|--|-----------------------------|----------------------|
| a) <i>Agrobacterium tumefaciens</i> – Tumour | b) <i>Thermos aquaticus</i> | – <i>Bt-gene</i> |
| c) pBR322 | – Enzyme | d) Ligase |
| | | – Molecular scissors |
12. Which of the following shows correct chronological order of the events occurring during callus culture?
- Callus → Cell division → Explant → Addition of cytokinin → Cells acquire meristematic property
 - Explant → Callus → Cell division → Addition of cytokinin → Cells acquire meristematic property
 - Explants → Cell division → Callus → Addition of cytokinin → Cells acquire meristematic property
 - Callus → Explant → Cell division → Addition of cytokinin → Cells acquire meristematic property
13. *Bt* toxin is
- Intracellular crystalline protein
 - Extracellular crystalline protein
 - Intracellular monosaccharide
 - Extracellular polysaccharide
14. A major use of embryo culture is in
- Production of alkaloids
 - Clonal propagation
 - Induction of somaclonal variations
 - Overcoming hybridization barriers
15. Which one of the following hydrolyses internal phosphodiester bonds in a polynucleotide chain?
- Lipase
 - Exonuclease
 - Endonuclease
 - Protease
16. White revolution is related to the increase in production
- Egg
 - Milk
 - Meat
 - Wool
17. What is true about *Bt* toxin?
- The inactive protoxin gets converted into active form in the insect gut
 - Bt* protein exists as active toxin in the *Bacillus*
 - The activated toxin enters the ovaries of the pest to sterilize it and thus, prevent its multiplication
 - The concerned *Bacillus* has antitoxins
18. In recombinant DNA technique, the term vector refers to
- Donor DNA, is identified and picked up through electrophoresis
 - Plasmid, transfers DNA into living cell
 - Collection of entire genome in form of plasmid
 - Enzyme, cuts the DNA at specific sites
19. A plant species which has been exploited for the production of hirudin is

- a) *Brassica napus* b) *Zea mays* c) *Solanun nigrum* d) *Oryza sativa*

20. The aims and objectives of Genetic Engineering Approval Committee are
I. To permit the use of genetically modified organisms and their product for commercial applications
II. To adopt the procedures for restriction, production and application of GM organisms
III. approval to conduct large scale field trails and release of transgenic crops in the environment
Which of the statements are given above are correct?
a) I and II b) I and III c) II and III d) I, II and III

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