CET - BIOLOGY
BIOTECHNOLOGY - II

Q. Importing better varieties of plants from outside and acclimatizing them to local environment is

1. Selection
2. Cloning
3. Introduction
4. Heterosis

Q. Bagging is done to

1. Achieve desired pollination
2. Prevent contamination from unwanted pollen
3. Avoid self-pollination
4. Avoid cross-pollination

Q. Heterosis is

1. Appearance of spontaneous mutations

2. Induction of mutations
3. Mixture of two or more traits
4. Superiority of hybrids over their parents

Q. Which one is not a mutagenic agent?

1. Nitrous acid
2. Ethyl methane sulphonate
3. X ray
4. Sulphuric acid

Q. Removal of anthers from bisexual flowers of female parent plants is

1. Emasculation
2. Male sterile line
3. Artificial pollination
4. Sterilization

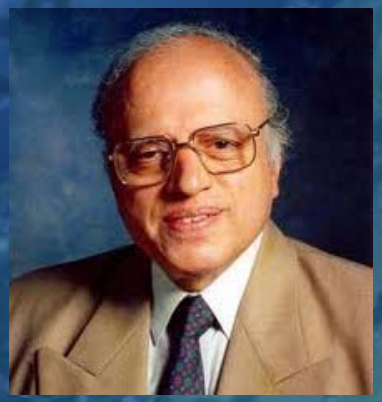
Q. Polyploidy is induced through

1. Colchicine
2. Irradiation
3. Mutagenic chemicals
4. Ethylene

Q. Bread wheat is

1. Tetraploid
2. Hexaploid
3. Diploid
4. Pentaploid

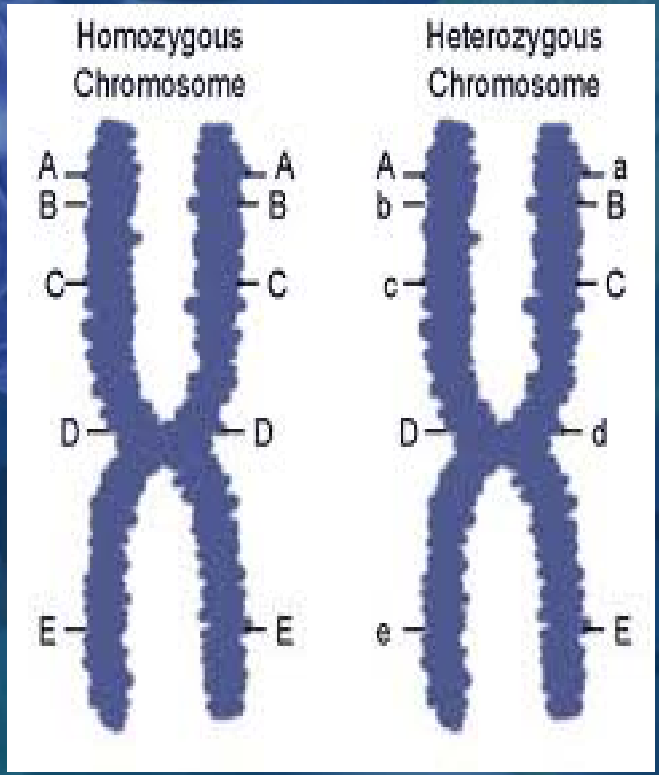
Q. Who among the following is called is the father of Green Revolution?



1. M.S. Swaminathan
2. Norman Borlaug
3. Ingo Potrykus
4. W.F. Anderson

Q. For a given character pureline plants are

1. Homozygous
2. Heterozygous
3. Homologous
4. Heterologous



Q. Polyploidy gives

1. Hybrid vigour
2. Homozygous effect
3. Gigas effect
4. Disease resistance

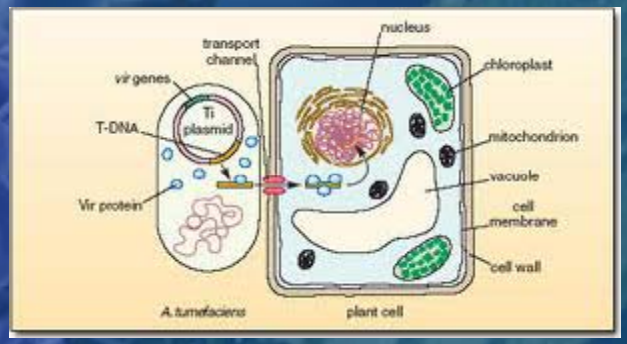
Q. Compare the statements A and B to select the correct description.

A: Homozygous 2n plants can be produced from n plants.

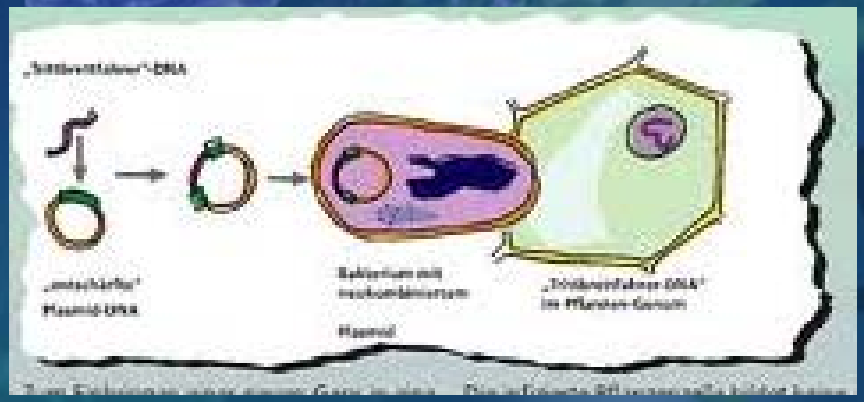
B: Colchicine treatment on n plants induces development of 2n plants.

1. **Both A and B are wrong.**
2. **A is correct and B is wrong.**
3. **B is the reason for A.**
4. **A is the reason for B.**

Q . The plasmid vector used to transfer gene to produce “Golden rice” is



1. pBR322
2. pUC18
3. Ti plasmid
4. Phage



Q. Technique for production of golden rice involves the insertion of –

1. One daffodil gene + two *Erwinia* sps genes
2. Two Daffodil genes + one *Erwinia* sps gene.
3. Two Daffodil genes + one *E. coli* gene.
4. One Daffodil gene + two *E. coli* genes.

Q. In Bt cotton, a transgenic plant, Bt refers to

1. **Beta**
2. **Botanical**
3. ***Bacillus thuringiensis***
4. **Biotechnology**

Q. Flavr savr variety of tomato remains fresh for long because it

1. has little polygalacturonase
2. has abundant polygalacturonase
3. has gene for antibiotic resistance
4. lacks amylase

Q. Cellular totipotency is exhibited by

1. all plant cells
2. all eukaryotic cells
3. only bacterial cells
4. only gymnosperm cells

Q. Which of the following is not a component of growth nutrient medium in plant tissue culture

1. Sucrose
2. Agarose
3. Inorganic salt
4. Amino acids

Q. Which is the correct sequence of events in *in vitro* plant propagation?

a. Inoculation- Callogenesis- Hardening- Organogenesis

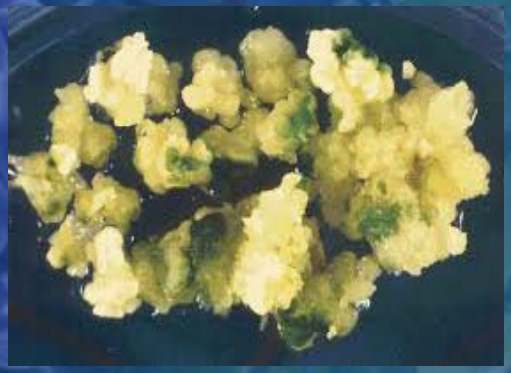
b. Inoculation- Organogenesis- Hardening- Callogenesis

c. Organogenesis- Callogenesis- Inoculation- Hardening

d. Inoculation- Callogenesis- Organogenesis- HardeningQ

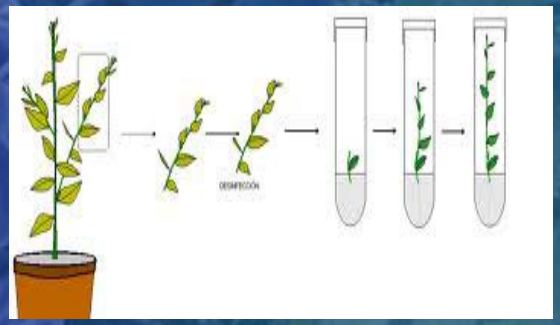
Q. Higher auxin to cytokinin ratio in plant tissue culture leads to

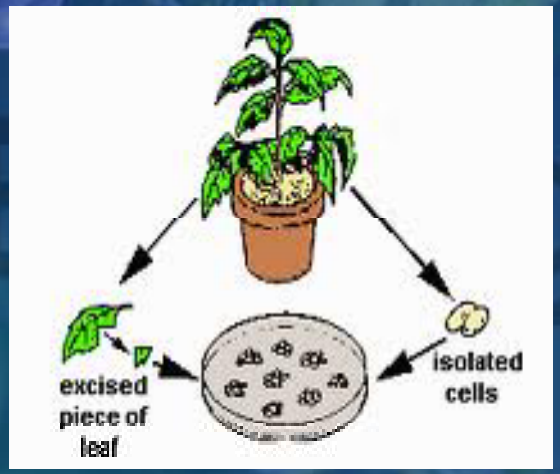
1. Rhizogenesis
2. Callogenesis
3. Morphogenesis
4. Shooting



Q. The part isolated from source plant for *in vitro* culturing in growth medium is called

1. Callus
2. Embryoid
3. Synthetic seeds
4. Explant





Q. In crop improvement programmes, virus free clones can be obtained through

1. Grafting
2. Spray of antibiotics
3. Hybridization
4. Shoot tip culture

Q. Genetic variation observed in callus obtained from tissue culture is called

1. Mutation
2. Polyploidy
3. Callogenesis
4. Somaclonal variation

Q. Dormancy in plants can be overcome by

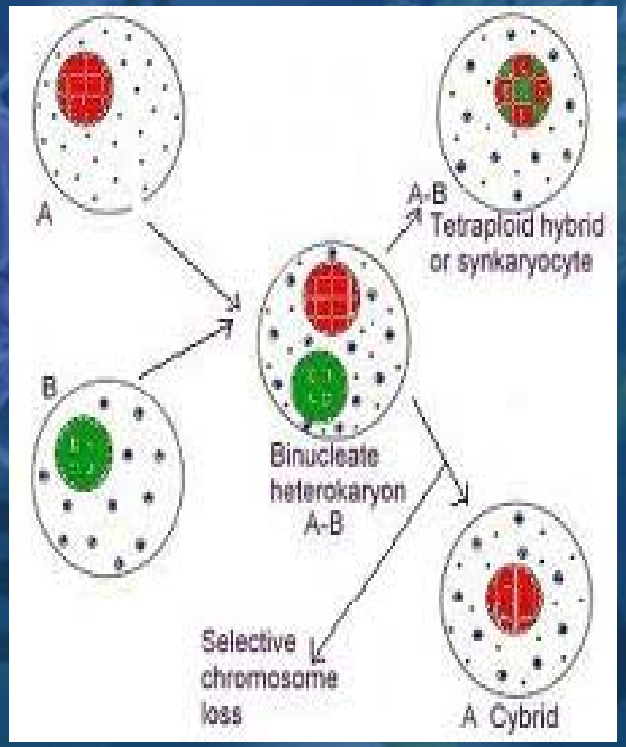
1. Protoplast culture
2. Meristem culture
3. Leaf culture
4. Embryo culture

Q. Embryoid is a

1. Non zygotic embryo
2. Non functional embryo
3. Parthenogenetic embryo
4. Aborted embryo

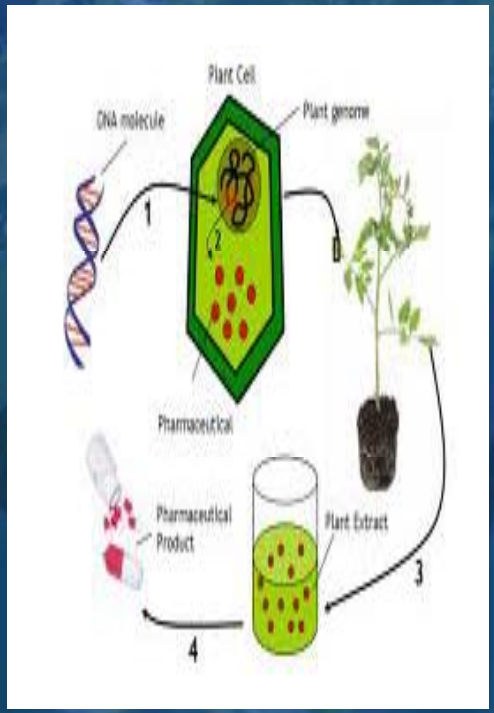
Q. Somatic hybridization is achieved through

1. Grafting
2. Protoplast fusion
3. Conjugation
4. Recombinant DNA technology



Q. The technique used for raising desired proteins from transgenic animals is called as

1. Molecular biology
2. Molecular engineering
3. Molecular farming
4. Molecular production



Q. Compare the statements A and B to select the correct description.

A: Donor animal is induced for superovulation.

B: Female animal is treated with FSH before artificial insemination.

1. A is correct, but B is wrong
2. A is wrong, but B is correct
3. A is the cause for B
4. B is the cause for A

Q. The equipment used to separate X and Y sperms is

1. Cytometer
2. Potometer
3. Barometer
4. Lactometer

Q. Semen to be used for AI is stored in

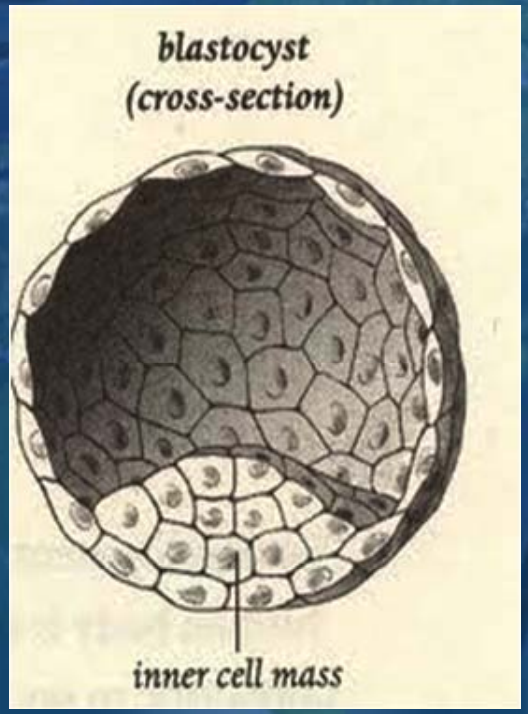
1. Deep freeze
2. Liquid nitrogen
3. Dry ice
4. Refrigerator

Q. Multipotent stem cells are capable of developing into

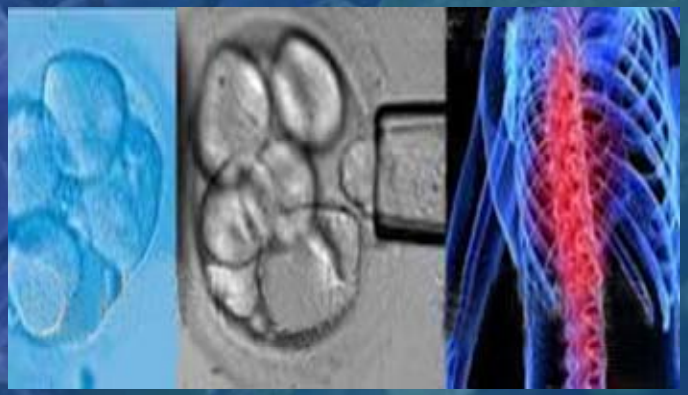
1. All types of body tissues
2. One specific type of body tissue
3. A whole organism
4. Some specific type of body tissues

Q. Inner cell mass of blastocyst is a good example for

1. Totipotent stem cells
2. Pluripotent stem cells
3. Multipotent stem cells
4. Primary stem cells



Q. Hope of treating spinal cord injuries arises from



1. Gene therapy
2. Stem cell culture
3. Recombinant DNA technology
4. Hybridoma technology

Q. The first transgenic animal to be produced was

a. Tracy sheep
b. Oncomouse
c. Dolly sheep
d. Herman bull




Q. Match the following columns:

i. Herbicide resistant gene in herb plants	a. Can be a concern to vegetarians
ii. Genetically modified organism	b. Can cause allergy
iii. Genetically modified food	c. Can cause superweeds
iv. Transfer of animal gene into food plant	d. Can disturb food chain

1. i-b, ii-d, iii-a, iv-c
2. i-c, ii-d, iii-b, iv-a
3. i-d, ii-a, iii-b, iv-c
4. i-d, ii-b, iii-a, iv-c

Q. Match the following:

i. Recombinant DNA Advisory Committee	a. Implementation of guidelines
ii. Institutional Biosafety Committee	b. Monitors large scale manufacturing and release of GMOs
iii. Review Committee on Genetic Manipulation	c. Evolves guidelines for research work
iv. Genetic Engineering Approval Committee	d. Recommends conditions for experimental trials

1. i-b, ii-d, iii-c, iv-a
2. i-d, ii-b, iii-d, iv-c
3. i-c, ii-a, iii-d, iv-b
4. i-a, ii-c, iii-b, iv-d

Q. One of the best ways to dispose laboratory waste is by

1. discarding into sea
2. burying in soil
3. discarding in waste land
4. incineration