



BIOLOGY

NCERT - NCERT Biology(Tamil)

BREEDING AND BIOTECHNOLOGY

Textbook Evaluation Choose The Correct Answer

1. Which method of crop improvement can be

practised by a farmer if he is in experienced?

A. clonal selection

B. mass selection

C. pureline selection

D. hybridisation

Answer:

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2. Pusa komal is a disease resistant variety



A. sugarcane

B. rice

C. cow pea

D. maize

Answer:

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3. Himagiri developed by hybridisation and selection for disease resistance against rut pathogens is a variety of _____

A. chilli

B. maize

C. sugarcane

D. wheat

Answer:

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4. The miracle rice which saved millions of lives

and celebrated its 50th birthday is

A. IR 8

B. IR 24

C. Atomita 2

D. Ponni

Answer:

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5. Which of the following is used to produce products useful to humans by biotechnology techniques?

A. enzyme from organism

B. live organism

C. vitamins

D. both (a) and (b)

Answer:

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6. We can cut the DNA with the help of _____.

A. scissors

B. restriction endonucleases

C. knife

D. RNAase

Answer:

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7. rDNA is a___

A. vector DNA

B. circular DNA

C. recombinant of vector DNA and desired

DNA

D. satellite DNA

Answer:

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8. Dna fingerprinting is based on the principle

of ifentifying____sequences of DNA

A. single stranded

B. mutated

C. polymorphic

D. repetitive

Answer:

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9. Organisms with modified endogenous gene

of a foreign gene are also known as____.

A. transgenic organsims

B. genetically modified

C. mutated

D. both a and b

Answer:

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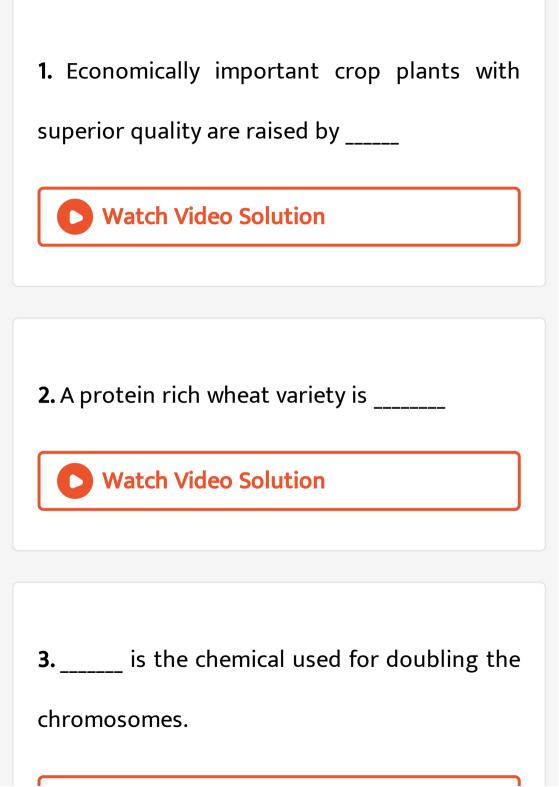
10. In a hexaploid wheat (2n=6 x=42) the haploid (n) and the basic (x) number of chromosomes respectively are

A. n = 7 and
$$x = 21$$

Answer:

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Textbook Evaluation Fill In The Blanks



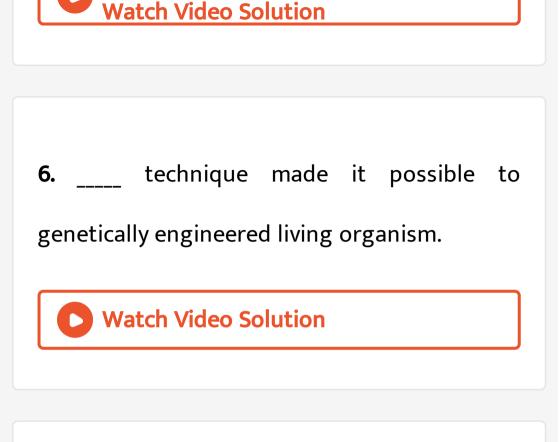


4. The scientific process which produces crop plant enriched with desirable nutrients is called_____.

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5. Rice normally grows well in alluvial soil,but____ia a rice variey produced by mutation breeding that grow well in saline soil





7. Restriction endonucleases cut the DNA

molecule at specific positions known as____.

8. Similar DNA finger printing is obtained for

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9. cells are undifferentiated mass of cells.
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10. In gene cloning, the DNA of intrest is intergrated is a
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1. Raphano brassica is a man-made tetraploid

produced by colchicine treatment.

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2. The process of producing an organism with more than two sets of chromosome is called mutation.



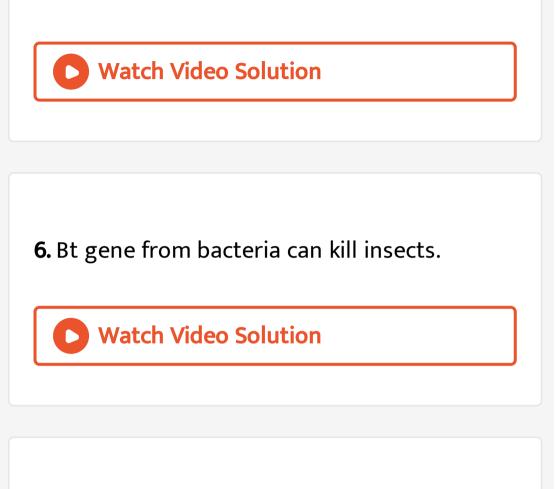
3. A group of plants produced from a single plant through vegetative or asexual reproduction are called a pureline.

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4. Iron fortified rice variety determines the

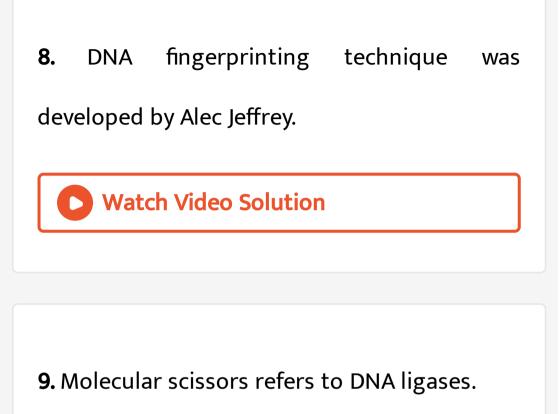
protein quality to the cultivated plant.

5. Golden rice is a hybrid.



7. In vitro fertilisation means the fertiisation

done inside the body.



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Textbook Evaluation Understand The Assertion Statement Justify The Reason Given And Choose The Correct Choice **1.** Assertion:Hybrid is superior than either of its parents.

Reason:hybrid vigour is lost inbreeding.

A. Assertion is correct and reason is wrong

B. Reason is correct and the assertion is

wrong

C. Both assertion and reason is correct

D. Both assertion and reason is wrong.

Answer:



2. Assertion:Colchicine reduces the chromosome number.

Reason: It promotes the movment of sister chromatids to the opposite poles.

A. Assertion is correct and reason is wrong

B. Reason is correct and the assertion is

wrong

C. Both assertion and reason is correct

D. Both assertion and reason is wrong.

Answer:

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3. Assertion(A): rDNA is superior over hybridisation techniques.

Reason(R): Desired genes are inserted without introducing the undesirable genes in target organisms.

A. Assertion is correct and reason is wrong

B. Reason is correct and the assertion is

wrong

C. Both assertion and reason is correct

D. Both assertion and reason is wrong.

Answer:

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Textbook Evaluation Answer In A Sentence

1. Give the name of wheat variety having

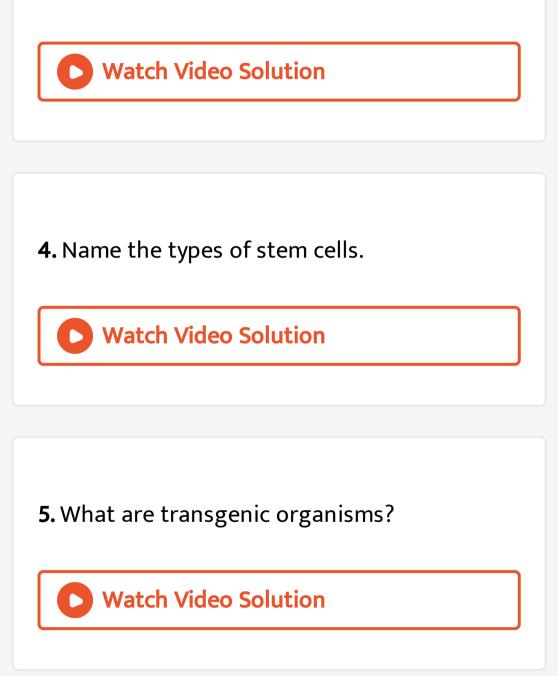
higher dietary fibre and protein.

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2. Semi-dwarf varieties were introduced in rice.This was made possible by the presence of dwarrfing gene in rice.Name this dwarfing gene.



3. Define Genetic engineering.



6. State the importance of biofertilizer.



Textbook Evaluation Short Answers Questions

1. Discuss the method of breeding for disease

resistance.

2. Name three improved characteristics of wheat that helped India to achieve high productivity.



3. Name two maize hybrids rich in amino acid

lysine.

4. Differentiate between Somatic cell gene

therapy and Germline gene therapy.

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5. Distinguish between

undifferentiated cells and differenetiated cells.

6. (a) State the applications of DNA finger printing technique.(b) Describe the structure of spinal cord.



7. How are stem cells useful in regenerative

process?

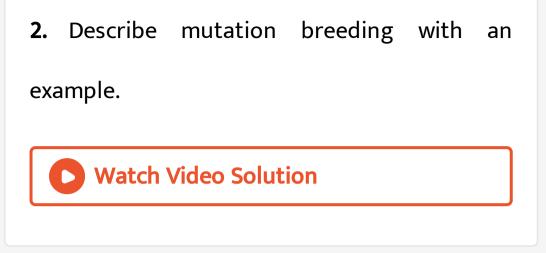
8. Differentiate between outbreeding and

inbreeding.

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Textbook Evaluation Long Answers Questions

1. What are the effects of hybrid vigour in animals?



3. Biofortification may help in removing hidden

hunger .How?

4. With a neat labelled diagram explain the

techniques involved in gene cloning.



5. Discuss the imporatance of biotechnology in

the field of medicine.



Textbook Evaluation Higher Order Thinking Skills Hots **1.** A breeder wishes to incorporate desirable characters into the crop plants.Prepare a list of charaters he will incorporate.



2. Organic farming is better than green

Revolution.Give reasons

3. Polyoloidy are characterised by gigantism

justify your answer.

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4. P' is a gene required for the synthesis of vitamin A.It is intergrated with gemone of 'Q' to produce genetically modified plant 'R'
(i)What is P,Q and R? .

(ii)state the importance of 'R' in India.



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