

BIOLOGY

BOOKS - NCERT BIOLOGY (ENGLISH)

STRATEGIES FOR ENHANCEMENT IN FOOD PRODUCTION

Multiple Choice Questions Mcqs

1. The changes contracting bird flu from a properly cooked (above $100^{\circ}C$) chicken and

egg are

A. Very high

B. high

C. Moderate

D. none of these

Answer: D



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2. A group of animals which are related by descent and share many similarities are referred to as

A. Breed

B. race

C. Variety

D. Species

Answer: A



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3. Inbreeding is carried out in animal husbandry because it

- A. increases vigour
- B. improves the breed
- C. increase heterozygosity
- D. Red rot of sugar cane

Answer: D



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4. Sonalika and Kalyan Sona are varieties of

A. wheat

B. rice

C. millet

D. Tobacco

Answer: A



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5. Which one of the following is not a fungal disease ?

A. Rust of wheat

B. Smut of barhra

C. Black rot of crucifers

D. Red rot of sugar cane

Answer: C



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6. In virus-infected plants the meristematic tissues in both apical and axillary buds are free of virus because

A. the dividing cells are virus resistant

B. Meristems have antiviral compounds

C. The cell division of meristems are faster than the rate of viral multiplication

D. Viruses cannot multiply within meristematic cell (s)

Answer: C



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7. Several South Indian states raise 2-3 crops of rice annually. The agronomic feature that makes this possible is because of

- A. Shorter rice plant
- B. better irrigation facilities
- C. early yielding rice variety
- D. Disease resistant rice variety

Answer: C



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8. Which one of the following combination would a sugarcane farmer look for in the sugarcane crop

A. thick stem , long internodes , high suger content and resisitant

B. thick stem , high sugar content and profuse flowering

C. thick stem , short internodes , high

sugar content , disease resistant

D. thick stem , low sugar content and

disease resistant

Answer: A



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9. Fungicides and antibiotics are chemicals that

A. enhance yield and disease resistance

B. Kill pathogenic fungi and bacteria ,

Respectively

C. kill all pathogenic microbes

D. Kill pathogenic bacteria and fungi

respectively

Answer: B



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10. Use of certain chemicals and radiation to change the base sequences of genes of crop plants is termed

A. Recombinant DNA technology

B. transgenic mechanism

C. Mutation breeding

D. gene therapy

Answer: C



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11. The scientific process by which crop plants are enriched with certain desirable nutrients is called

A. Crop proection

B. Breeding

C. biofortification

D. bioremediation

Answer: C



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12. The term 'totipotency' refers to the capacity of a

A. cell to generate whole plant

B. but to generate whole plant

C. Seed to germinate

D. Cell to enlarge in size

Answer: A



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13. Given below are a few statements regarding somatic hybridisation. Choose the correct statements.

(i) Protoplasts of different cells of the same plant are fused.

(ii) Protoplasts from cells of different species can fused.

(iii) Treatment of cell with cellulase and pectinase mandatory.

(iv) The hybrid protoplast contains characters of only one parental protoplast.

A. I and II

B. I and II

C. I and IV

D. IV and III

Answer: D



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14. An explant is

A. Dead plant

B. part of the plant

C. part of the plant used in tissue culture

D. part of the plant that expresses a specific gene

Answer: C



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15. The biggest constraint of plant breeding is

A. Availability of desirable gene crop and its wild relatives

B. infrastructure

C. Trained manpower

D. Transfer of genes from unrelated sources

Answer: A



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16. Lysine and tryptophan are

A. proteins

B. non- essential amino acids

C. Essential amino acids

D. aromatic acids

Answer: C



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17. Micro-propagation is

A. Propagation of microbes in vitro

B. Progapagation of plants in vitro

C. propagation of cells in vitro

D. Growing plants on smaller scale

Answer: B



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18. Protoplast is

A. Another name for protoplasm

B. an animal cell

C. a plant cell without a cell wall

D. a plant cell

Answer: C



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19. To isolate protoplast, one needs

A. Pectinase

B. Cellulase

C. both pecthase cellulase

D. chitnase

Answer: C



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20. Which one of the following is a marine fish ?

A. Rohu

B. Hilsa

C. Catla

D. Common carp

Answer: B



21. Which one of the following products of apiculture is used in cosmetics and polishes?

A. Honey

B. Oil

C. Wax

D. Royal jelly

Answer: C



22. More than 70 per cent of livestock population is in

A. denmark

B. india

C. China

D. india and china

Answer: D



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23. The agriculture sector of India employs about

- A. 50% of the population
- B. 70 % of the population
- C. 30% of the population
- D. 60% of the population

Answer: D



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24. 33 percent of India's (Gross Domestic Product) comes from

A. Industry

B. Agriculture

C. Exhort

D. small-scale cottage industries

Answer: B



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25. A collection of all the alleles of all the genes of a crop plant is called

A. germplasm collection

B. protoplasm collection

C. herbarium

D. somaclonal collection

Answer: A



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Very Short Answer Types Questions

1. Millions of chicken were killed in west Bengal , Assom , odisha and maharashtra recently ,what was the reason ?



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2. Can gamma rays used for crop improvement programmes prove to be harmful for health ? Discuss.



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3. In animal husbandry if two closely related animals are mated for a few generations , it results in loss of fertility and vigour why is this so ?



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4. in the area of plant breeding it is important not only to preserve all its wild relatives ,Explain with a suitable example .



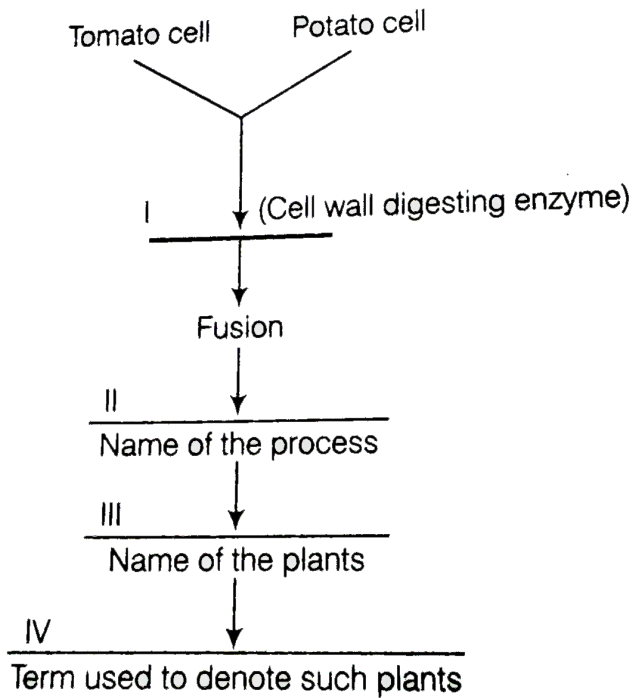
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5. Name a man -made cereal , trace , trace how it was developed and where is it used?



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6. fill in the blanks .



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7. A few statements are given below followed by set of terms in a box , pick the correct term and write it against the appropriate statement

(a) Mating of closely related individuals within the same breed.	(i) Cross breeding
(b) Mating of animals of same breed but having no common ancestors on either side for 4-6 generations.	(ii) Inter-specific hybridisation
(c) Mating of animals of two different species.	(iii) Outbreeding
(d) Breeding of animals belonging to different breeds.	(iv) Outcrossing
	(v) Inbreeding



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8. what is meant by ' hidden hunger?



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9. Why are plants obtained by protoplast culture are called somatic hybrids ?



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10. what is protoplast fusion ?



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11. why is it easier to culture meristems compared to permanent tissues?



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12. why are proteins synthesised from spirulina called single cell capsule proteins ?



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13. A person who allergic to pulses was advised to take a capsule of spirulina daily . Give the Reasons for the advise.



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14. what is aquaculture ? Give example of an animal that can be multiplied by aquaculture .



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15. what are the duties of a veterinary doctor in management of a poultry farm ?



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16. Would it be wrong to call plants obtained through micro - propagation as ' clones ?

Comment /



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17. How is a somatic hybrid different from a hybrid ?



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18. what is emasculation ? Why and when is it done ?



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19. Discuss the two main limitations of plant hybridisation programme .



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20. Inter-specific crosses are rare in nature and inter-generic crosses almost unknown .why?



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21. Differentiate between pisciculture and aquaculture .



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22. Give two important contribution of DR. MS Swaminathan .



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23. The term ' desirable trait ' can mean different things for different plants. Justify the statement with suitable examples.



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24. you are planning to set up a dairy farm.

Describe the various aspects you would consider before you start the venture .



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25. It is said , that diseases are spreading faster due to globalisation and increased movement of people .Justify the statement taking the example Of H_5N_1 virus .



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26. Explain the concept of the blue revolution .



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27. A farmer was facing problem of low yield from farm ,He was advised to keep a beehive in the vicinity . Why ? How the beehive help in enhancing yield?



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28. Life style diseases are increasing alarmingly in india .we are also dealing with large scale malnutrition in the population Is there any method by which we can address both of these problems together ?



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29. How can we improve the success rate of fertillisatin artificial insemination in animal usbendry programmers?



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30. What is meant by germplasm collection
what are its benefits ?



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31. Name the improved characteristics of
wheat that helped india to achieve green
revolution .



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32. Suggest some of the features of plants that will prevent insect and pest infestation.



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33. it is Easier to culture the plant cells in vitro as compared to animals cells why ?



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34. 'The culture medium(nutrient medium) can be used as a highly enriched laboratory soil'.

Justify the statement.



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35. is there any relationship between dedifferentiation and the higher degree of success achieved in plant tissue experiments ?



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36. Give me a living cell of any plant and I will give you a thousand plants of the same type" ,
Is this only a slogan or is it scientifically possible ?



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37. what is the difference between a breed and a species ? Give an example for each category.



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38. Plants raised through tissue cultures are clones of the parent plant. Discuss the utility of these plants.



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39. Discuss the importance of testing of new plant varieties in a geographically vast country like India.



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40. Define the term stress for plants .Discuss briefly the two types of stress encountered by plants .



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41. Discuss natural selection and artificial selection . What are the implications of the latter on the process of evolution ?



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42. Discuss briefly how pure lines are created in animal husbandry.



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43. what are the physical barriers of a cell in the protoplast fusion experiment?How are these barriers overcome ?



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44. Give few examples of biofortified crops .

What benefits do they offer to the society?



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Long Answer Type Questions

1. You are botanist working in the area of plant breeding .Describe the various steps that you will undertake to release a new variety.



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2. (a) the shift from grain to meat diets creates more demands for cereals. Why ?

(b) A 250 kg Cow produces 200 g of protein per day but 250 g of *Methylophilus methylotrophus* can produce protein, Name this emerging area of research. Explain its benefits.



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3. what are the advantages of tissue culture methods over conventional programmes ?



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4. Modern methods of breeding animals and plants can alleviate the global food shortage '.
Comment on the statement and give suitable examples.



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5. Does apiculture offer multiple advantages to farmers ?List advantages if it is located near a place of commercial flower cultivation.



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6. (A) Mutations are beneficial for plant breeding .Taking an example , justify the statement .

(b) Discuss briefly the technology that made us self - sufficient in food production .



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7. Discuss how the property of plant cell totipotency has been utilised for plant propagation and improvement .



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8. What are three options to increase food production? Discuss each giving the salient features, merits and demerits.



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