



# INDIAN SCHOOL DARSAIT

## DEPARTMENT OF BIOLOGY



Subject : Biology

Topic : Strategies For  
Enhancement In Food  
Production

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Class & Division : XII A & B  
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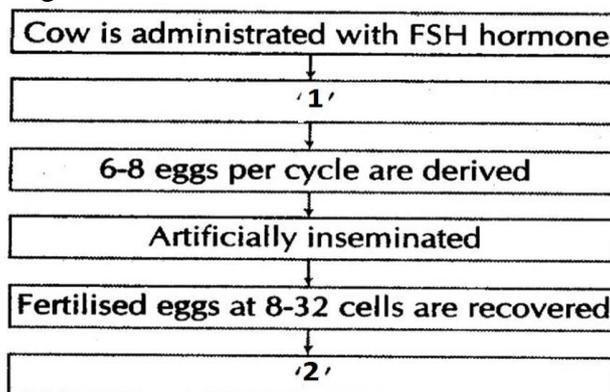
S.No.	Questions	Marks
1	List any two economically important products for humans obtained from <i>Apis indica</i> (CBSE 2008)	1
2	Name the Indian variety of rice patented by an American company. (CBSE 2008)	1
3	What is the economic value of <i>Spirulina</i> ? (CBSE 2008)	1
4	Why is bagging of the emasculated flowers essential during hybridization experiments? (CBSE 2009)	1
5	Mention the strategy used to increase homozygosity in cattle for desired traits. (CBSE 2009)	1
6	Which one is used in apiculture: Hilsa, <i>Apis indica</i> , Sonalika. (CBSE 2009)	1
7	Which of the following is the semi-dwarf wheat that is high yielding and disease resistant ? Pusa Shubra Kalyan Sona, Rana. (CBSE 2009)	1
8	What is the major advantage of producing plants by micro propagation? (CBSE 2009)	1
9	What is meant by biofortification? (CBSE 2009)	1
10	How can pollen grains of wheat and rice which tend to lose viability within 30 minutes of their release be made available months later for breeding programmes ? (CBSE 2009)	1
11	State the importance of biofortification. (CBSE AI 2011)	1
12	Name the following: (a) The semi dwarf variety of wheat which is high yielding and disease resistant (b) Any one interspecific hybrid mammal. (CBSE 2012)	1

- 13 Write the name of the following: 1  
 (a) The most common species of bees suitable for apiculture  
 (b) An improved breed of chicken. (CBSE 2012)
- 14 Why is the South Indian Sugarcane preferred by agriculture? (CBSE Foreign 2012) 1
- 15 Write names of two semi-dwarf and high yielding rice varieties developed in India after 1966. (CBSE 2012) 1
- 16 Name any two diseases the 'Himgiri' variety of wheat is resistant to. (CBSE AI 2013) 1
- 17 Write a professional approach at genetic level that can help the farmer to improve the milk yield of low milk-producing cows in his farm. (CBSE Delhi 2013) 1
- 18 Write the importance of MOET. (CBSE Delhi 2013) 1
- 19 Write an alternate source of proteins for animals and human nutrition. (CBSE AI 2014) 1
- 20 Identify the two correct statements from the following: 1  
 i) Apiculture means Apical meristem culture  
 ii) Spinach is iron-enriched.  
 iii) Green revolution has resulted in improves pulse-yield  
 iv) Aphids cannot infest rapeseed mustard. (CBSE Delhi 2014)
- 21 Mention the economic value of *Apis indica*. (CBSE Delhi 2015) 1
- 22 State the economic value of *Saccharum officinarum* in comparison to *S. barberi*.. (CBSE AI 2015) 1
- 23 Suggest the breeding method most suitable for animals that are below average in milk productivity. (CBSE Delhi 2016) 1
- 24 List any four objectives that you would recommend for biofortification. (CBSE 2008) 2
- 25 How are somaclones produced? How are they different from somatic hybrids? (CBSE 2008) 2
- 26 a) Mention two ways of inducing artificial mutation in a crop field. 2  
 b) List two steps that help in introducing the desired mutation into the crop. (CBSE 2009)
- 27 List any four important components of poultry farm management. (CBSE 2009) 2
- 28 Honey collection improves when beehives are kept in crop-field during flowering seasons. Explain. (CBSE 2010) 2

29 How is a pureline animal raised? Explain. (CBSE Delhi 2011) 2

30 Explain the advantages of cross breeding of the two species of sugarcane in India. (CBSE 2011) 2

31 Study the flow chart given below: 2



- i) Identify the events that take place at stages (1) and (2) respectively.  
 ii) State the importance of the technology explained above. (CBSE Foreign 2011)

32 How does culturing *Spirulina* solve the food problems of the growing human population? (CBSE Foreign 2012) 2

33 How are biofortified Maize and Wheat considered nutritionally improved? (CBSE Foreign 2012) 2

34 How is it possible to recover healthy banana plants from a diseased but desirable quality banana plant? Explain. (CBSE 2012) 2

35 (a) What is the programme called that is involved in improving success rate of production of desired hybrid and herd size of cattle? 2  
 (b) Explain the method used for carrying this programme for cows. (CBSE 2012)

36 (a) Name the Indian scientist whose efforts brought “green revolution” in India. 2  
 (b) Mention the steps that are essentially carried out in developing a new genetic variety of crop under plant breeding programme. (CBSE 2012)

37 Name the technology used in micro propagation of plants. Write the genetic significance of the plants raised through this technique. Give two examples where this technology is commercially exploited. (CBSE Delhi 2012) 2

38 Identify A, B, C, and D in the table given below: (CBSE Foreign 2013) 2

Crop	Variety	Resistance to Disease
A	Himgiri	Hillbunt
Brassica	Pusa Swarnim	B
Cauliflower	C	Black rot
D	Pusa komal	Bacterial blight

- 39 Differentiate between outbreeding and inbreeding. (CBSE Delhi , Foreign 2014) 2
- 40 State the disadvantage of inbreeding among cattle. How it can be overcome?  
(CBSE 2014) 2
- 41 Explain the importance of inbreeding in cattle. (CBSE Delhi 2014) 2
- 42 Enumerate four objectives for improvising the nutritional quality of different crops for the health benefits of the human population by the process of Biofortification.  
(CBSE Delhi 2015) 2
- 43 Name any two common Indian millet crops. State one characteristic of millets that has been improved as a result of hybrid breeding so as to produce high yielding millet crops.  
(CBSE Delhi 2015) 2
- 44 How has mutation breeding helped in improving the production of mung bean crop?  
(CBSE 2015) 2
- 45 a)Why are the plants raised through micropropagation termed as ‘somaclones’?  
b)mention two advantages of this technique. (CBSE 2015) 2
- 46 a)Why is ‘MOET’ considered to be a successful programme in cattle breeding?  
b)What kind of male and female cattle are selected for this programme?  
c)Why is the cow administered with FSH-like hormones? Explain.  
(CBSE 2008) 3
- 47 How would you explain to the farmers that apiculture is both easy and economically beneficial to them?  
(CBSE 2008) 3
- 48 List any three outbreeding carried out to breed domestic animals.Explain the importance of each one listed.  
(CBSE 2010) 3
- 49 How are somaclones cultured from explants in *in vitro* conditions ? Why are somaclones so called?  
(CBSE 2008, 2009,Foreign 2010) 3
- 50 Explain the efforts which must be put in, to improve health, hygiene and milk yield of cattle in a dairy farm.  
(CBSE 2010) 3
- 51 IARI has released several varieties of crop plants that are biofortified.Give three examples of such crops and their biofortifications.  
(CBSE 2011) 3
- 52 What is ‘ blue revolution’? Name two fresh water and two marine edible fish.  
(CBSE 2011) 3
- 53 Mention the property of plant cells that has helped them to grow into a new plant in vitro condition. Explain the advantages of micropropagation. (CBSE 2010, 2011) 3
- 54 How can crop varieties be made disease resistant to overcome food crisis in India? Explain. One disease resistant variety in India 3

- (a) Wheat to leaf and strips rust  
(b) Brassica to white rust. (CBSE 2011)
- 55 Differentiate between inbreeding and outbreeding in cattle. State one advantage and one disadvantage for each one of them. (CBSE 2011, 2013) 3
- 56 Scientists have succeeded in recovering healthy sugarcane plants from a diseased one. 3  
(a) Name the part of the plant used as explant by the scientists  
(b) Describe the procedure the scientists followed to recover the healthy parts.  
(c) Name this technology used for crop improvement. (CBSE AI 2011, 2012)
- 57 (a) Name the nematode that infests and damages Tobacco roots. 3  
(b) How are transgenic Tobacco plants produced to solve this problem?  
(CBSE 2014)
- 58 Why are beehives kept in crop field during flowering period? Name any two crop fields where it is practiced. (CBSE 2014) 3
- 59 (a) Name the tropical sugar cane variety grown in South India. How has it helped in improving the sugar cane quality grown in North India? (CBSE Delhi 2014) 3  
(b) Identify 'a', 'b' and 'c' in the following table
- | No. | Crop       | Variety                  | Insect Pests          |
|-----|------------|--------------------------|-----------------------|
| 1.  | Brassica   | Pusa Gaurav              | <u>(a)</u>            |
| 2.  | Flat bean  | Pusa Sem 2<br>Pusa sem 3 | <u>(b)</u>            |
| 3.  | <u>(c)</u> | Pusa Sawani<br>Pusa A-4  | Shoot and fruit borer |
- 60 Enumerate any six essentials of good, effective Dairy Farm management practices. (CBSE 2015) 3
- 61 Enlist the steps involved in inbreeding of cattle. Suggest two disadvantages of this practice. (CBSE 2015) 3
- 62 Differentiate between somaclones and somatic hybrids. Give one example of each. (CBSE Delhi 2016) 3
- 63 (a) Name any two fowls other than chicken reared farm management. 3  
(b) Enlist four important components of poultry farm management. (CBSE Delhi 2016)
- 64 Plant breeding technique has helped sugar industry in North India. Explain how. (CBSE Delhi 2016) 3
- 65 (a) What is plant breeding? List the two steps the classical plant breeding involves. 5  
(b) How has the mutation breeding helped in improving crop varieties? Give one example where this technique has helped.  
(c) How has the breeding programme helped in improving the public nutritional health? State two examples in support of your answer. (CBSE 2013)

- 66 (a) Name the technology that has helped scientists to propagate on a large scale the desired crops in a short duration. List the steps carried out to propagate the crops by the said technique. 5  
(b) How are somatic hybrids obtained? (CBSE 2014)
- 67 With advancements in genetics, molecular biology and tissue culture, new traits have been incorporated into crop plant (CBSE AI 2014) 5
- 68 Explain the main steps in breeding a new genetic variety of a crop.( CBSE 2014) 5
- 69 Plan an experiment and prepare a flow chart of the steps that you would follow to ensure that the seeds formed only from the desired sets of pollen grains. Name the type of experiment that you carried out. (CBSE 2015) 5