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(20517)

Roll No. ....

B.Sc. Bio-Tech.-III Yr.

NS-3473

B.Sc. (Bio-Technology) Examination, May 2017

Plant Bio-Technology

[B-301]

(New)

*Time : Three Hours ]*

*[Maximum Marks : 75*

**Note :** Attempt **any five** questions, out of **ten** questions.

1. Write detail account on Biotechnological approaches in India right from beginning. 15
2. Write the suitable method of organogenesis and its applications. 15
3. Write about the different method of plant propagation. 15

P.T.O.

4. ✓ Write the name of various techniques used  
In Vitro propagation. Write their applications  
and demerits.  $10+3+2=15$

5. How the markers are helpful in selection of  
hybrid cells. Explain it. 15

6. Write about the physical gene transfer  
method and its significance. 15

7. Describe the method of cybrid production  
and also the applications of cybrids. 15

8. Describe the role of elicitors in production of  
plant secondary metabolites. 15

9. Write notes on -  $7\frac{1}{2}+7\frac{1}{2}=15$

(i) Transgenic plants-used as human thera-  
peutics

(ii) Disease resistant plants production

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10. Write notes on -  $7\frac{1}{2}+7\frac{1}{2}=15$

(i) Protoplast culture

(ii) Micropropagation

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(20518)

Roll No. 1593502688

B. Sc. (Biotech.)-III Year

**NS-3473**

**B. Sc. (Biotechnology) Examination, May 2018**

**Plant Biotechnology**

**(B-301)**

**(New)**

*Time : Three Hours]*

*[Maximum Marks : 75*

**Note :** Attempt any *five* questions. All questions carry equal marks.

1. What are cybrids and how can they be produced ?  
What is their importance in crop improvement programmes? 15
2. (a) What are the current concerns for the GM crops and how are the GM crops regulated? 7½  
(b) What are the growth regulators and what is their use in plant tissue culture media? 7½
3. Write short notes on the following, supporting your answer with relevant examples : 5×3
  - (a) Edible vaccines
  - (b) Immobilized cells
  - (c) Elicitors.

(2)

4. Write in detail about the physical gene transfer methods for plant transformation. Mention merits and demerits of each method. 15
5. Discuss the various methods for protoplast fusion, mentioning their merits and demerits. 15
6. ✓ What are the various methods of haploid production? Mention their applications. 15
7. ✓ What are somaclonal variations and how can they be induced? What are their applications in crop improvement. 15
8. What are the practical applications of transgenic plants? Give adequate examples. 15
9. ✓ Write detailed notes on the following:  $7\frac{1}{2}+7\frac{1}{2}$ 
  - (a) Ovary culture
  - (b) Embryo culture.Mention their application.
10. What is micropropagation and how can it be used for multiplication of elite plants? Mention the various advantages and disadvantages of micropropagation. 15

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A (Printed Pages 3)  
(20620) Roll No. ....  
B.Sc. (Biotech.)-III Year

## **NS-3473 (CV)**

**B.Sc. (Biotechnology) Examination,**

**June - 2020**

**Plant Biotechnology**

**(B-301)**

*Time : Two Hours ] [Maximum Marks : 75*

**Note :** Attempt any **four** questions. **All** questions carry equal marks.

1. How cloning of plant defence response genes are helpful in developing disease resistance in plants. Discuss in detail.
- ②. What is embryo culture? Discuss various methods available to rescue embryos as well as advantages of embryo culture.
3. Write notes on the following-
  - (a) Identification of hybrid cells using markers.

**P.T.O.**

- (b) Cybrids and their uses.
4. Discuss about following topics-
- (a) Biotransformation
  - (b) Various stages of micropropagation
5. Describe various methods of isolation and fusion of protoplast.
6. Write detailed notes on following:
- (a) Use of root initiation property of **Agrobacterium rizogene** in forestry.
  - (b) Various factors governing the success of androgenesis in Anther culture.
7. Evaluate various pathways to develop insect resistance in plants.
8. Write notes on the following-
- (a) Factors affecting Gynogenic haploid plant production.
  - (b) Culture media used to develop haploid plants

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9. Write short notes on the following:
- (a) In-vitro pollination and fertilization methods.
  - (b) Organogenesis and its practical application.
  - (c) Limitation of somatic hybridization.
10. Write short notes on following causes of Somaclonal variation :
- (a) Karyotype change
  - (b) Single gene Mutation
  - (c) Cytoplasmic genetic changes

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