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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.

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

P.T.O.

- Write the name of various techniques used
 In Vitro propagation. Write their applications
 and dements. 10+3+2=15
- How the markers are helpful in selection of hybrid cells. Explain it.
- Write about the physical gene transfer method and its significance.
- Describe the method of cybrid production
 and also the applications of cybrids.
- 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 therapeutics
 - (ii) Disease resistant plants production

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10. Write notes on -

71/2+71/2=15

- (i) Protoplast culture
- (ii) Micropropagation

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B. Sc. (Biotech.)-III Year

NS-3473

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

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(New)

Time: Three Hours]

[Maximum Marks: 75

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

- What are cybrids and how can they be produced? What is their importance in crop improvement programmes? 15
- What are the current concerns for the GM crops 2. (a) and how are the GM crops regulated? 71/2
 - What are the growth regulators and what is their (b) use in plant tissue culture media? 71/2
- Write short notes on the following, supporting your answer with relevant examples:
 - (a) Edible vaccines
 - (b) Immobilized cells
 - (c) Elicitors.

- 4. Write in detail about the physical gene transfer methods for plant transformation. Mention merits and demerits of each method.
 - Discuss the various methods for protoplast fusion, mentioning their merits and demerits.
 - 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.
 - What are the practical applications of transgenic plants? Give adequate examples.
 - Write detailed notes on the following: 7½+7½
 - (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.

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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.

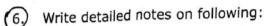
- How cloning of plant defence response genes are helpful in developing disease resistance in plants. Discuss in detail.
- 2. What is embryo culture? Discuss various methods available to rescue embryos as well as advantages of embryo culture.
- Write notes on the following-
 - (a) Identification of hybrid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

P.T.O.

- (b) Cybrids and their uses.
- 4. Discuss about following topics- .
 - (a) Biotransformation
 - (b) Various stages of micropropagation

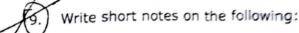
 Describe various methods of isolation

 and fusion of protoplast.



- (a) Use of root initiation property of **Agrobacterium rizogene** in forestry.
- (b) Various factors governing the success of androgenesis in Anther culture.
- 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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- (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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