



**DP-003-1016046**

Seat No. \_\_\_\_\_

**B. Sc. (Sem. VI) (CBCS) Examination**

**April - 2022**

**Botany : B601**

*(Genetic, molecular, bio, horti, plant breeding and anatomy)*  
*(Old Course)*

**Faculty Code : 003**

**Subject Code : 1016046**

Time :  $2\frac{1}{2}$  Hours]

[Total Marks : 70

- Instructions :** (1) This questions paper contains three questions. all are compulsory.  
(2) Draw neat and labelled diagrams wherever necessary.  
(3) Figure to the right indicate marks.

- 1 (A) Objective : 4  
(1) Define : mutagens.  
(2) What is gametic mutation ?  
(3) Write function of m-RNA.  
(4) Who is father of genetics ?
- (B) Answer in brief : (Any 1 out of 2) 2  
(1) Write the polyploidy.  
(2) Write short note on : r-RNA.
- (C) Answer in detail : (Any 1 out of 2) 3  
(1) Explain structure of m-RNA.  
(2) Write the gene scan.
- (D) Write a note on : (Any 1 out of 2) 5  
(1) Describe the structure of t-RNA.  
(2) Write the modern concept of gene.

<b>2</b>	(A) Objective :	<b>4</b>
	(1) What is cosmids ?	
	(2) Who discovered the plasmid PBR322 ?	
	(3) Write the full form PGE.	
	(4) What is blotting ?	
	(B) Answer in brief : (Any 1 out of 2)	<b>2</b>
	(1) Write the short not PBR322 as vector.	
	(2) Write the characteristic feature of plasmid vector.	
	(C) Answer in detail : (Any 1 out of 2)	<b>3</b>
	(1) Explain three name of restriction endonuclease enzymes.	
	(2) Describe the importance of vector in cloning techniques.	
	(D) Write a note on : (Any 1 out of 2)	<b>5</b>
	(1) Write the lac operon concept.	
	(2) Discuss nucleic acid hybridization techniques.	
<b>3</b>	(A) Objective :	<b>4</b>
	(1) Define : explant.	
	(2) The optimum pH of MS medium is.....	
	(3) Write the full form of BT.	
	(4) Write the full form of PTC.	
	(B) Answer in brief : (Any 1 out of 2)	<b>2</b>
	(1) Write the application of tissue culture.	
	(2) Discuss the limitation for successful cryopreservation.	
	(C) Answer in detail : (Any 1 out of 2)	<b>3</b>
	(1) Write the advantage of transgenic plants.	
	(2) Give the sterilization technique in plant tissue culture.	

- (D) Write a note no : (Any 1 out of 2) 5
- (1) Explain the preparation of M.S. medium in tissue culture.
  - (2) Describe the disadvantage of production of genetically modified crops.
- 4 (A) Objective : 4
- (1) What is hybrid ?
  - (2) Explain term : clone.
  - (3) What is layering ?
  - (4) Write the meaning of horticulture.
- (B) Answer in brief : (Any 1 out of 2) 2
- (1) Write note on whip grafting.
  - (2) Explain tongue grafting.
- (C) Answer in detail : (Any 1 out of 2) 3
- (1) Write the budding as vegetative propagation method.
  - (2) Describe the bulk method.
- (D) Write a note on : (Any 1 out of 2) 5
- (1) Explain layering as vegetative propagation method.
  - (2) Discuss pedigree method of hybridization.
- 5 (A) Objective : 4
- (1) Write the one disadvantage of mass selection.
  - (2) Write the function of xylem.
  - (3) What is sieve elements ?
  - (4) Write the function of phloem.

- (B) Answer in brief : (Any 1 out of 2) **2**
- (1) Write the collenchymas tissue.
  - (2) Explain the tracheids.
- (C) Answer in detail : (Any 1 out of 2) **3**
- (1) Describe the phloem tissue with figure.
  - (2) Explain the anomalous secondary growth in bougainvillea stem.
- (D) Write a note on : (Any 1 out of 2) **5**
- (1) Explain the anomalous secondary growth in salvadora stem.
  - (2) Describe double staining method.
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