



**BBF-003-1016046** Seat No. \_\_\_\_\_

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

**June / July - 2021**

**B- 601 : Botany**

*(Genetics, Molecular Biology, Biotechnology, horticulture,  
Plant breeding and Anatomy)*

*(New Course)*

**Faculty Code : 003**

**Subject Code : 1016046**

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

[Total Marks : 70

- Instructions :** (1) Attempt any five questions out of the following questions.  
(2) Answer with draw neat and labelled diagram wherever necessary  
(3) Figures to the right side indicated total marks for the questions

- 1** (A) Answer the following Objective type questions : **4**  
(1) Who proposed the name of m-RNA?  
(2) Which of the RNAs' structure is similar to clover leaf?  
(3) Which type of rRNA found in prokaryotic and eukaryotic ribosomes?  
(4) Write the three main component of RNA
- (B) What is linkage? **2**
- (C) Explain temperature as mutagens. **3**
- (D) Describe the structure of tRNA. **5**
- 2** (A) Answer the following objective type questions : **4**  
(1) Which nitrogen base is not present in RNA?  
(2) The term crossing over was coined by \_\_\_\_\_  
(3) The scientist who had given the theory of linkage are \_\_\_\_\_  
(4) What is gametic mutation?

- (B) Write a note on rRNA. 2
- (C) Explain chemical as mutagens. 3
- (D) Describe Bateson and Punnett's Coupling and Repulsion Hypothesis. 5
- 3** (A) Answer the following Objective type questions : 4
- (1) Which type of restriction enzyme is mostly used in genetic engineering?
  - (2) Write two names of recombinant DNA techniques.
  - (3) Who discovered the plasmid pBR322?
  - (4) EcoRI is derived from \_\_\_\_\_
- (B) Write a note on plasmid as vector. 2
- (C) Describe southern blotting techniques. 3
- (D) Describe - Lac operon concept. 5
- 4** (A) Answer the following Objective type questions : 4
- (1) In western blotting, sample proteins are separated using?
  - (2) What are cosmids?
  - (3) Write the full form of PGE
  - (4) Restriction endonucleases are enzymes which restrict the action of enzyme \_\_\_\_\_
- (B) Write a note on - restriction endonuclease enzyme. 2
- (C) Write a note on bacteriophage as vector. 3
- (D) Describe blue white screening method. 5
- 5** (A) Answer the following Objective type questions : 4
- (1) What is the full form of NAA
  - (2) The laminar air flow apparatus is used. in technique of \_\_\_\_\_
  - (3) Give the full form of ICAR.
  - (4) Plant tissue culture technique is a redefined method of \_\_\_\_\_

- (B) Write the Limitations for Successful Cryopreservation. 2
- (C) How we used glassware washing technique in plant tissue culture? 3
- (D) Give information about GM Papaya. 5
- 6 (A) Answer the following Objective type questions : 4
- (1) Bt genes are obtained from \_\_\_\_\_
  - (2) Define - Explant
  - (3) The optimum pH of the MS medium is :
  - (4) Which tropical fruit crop has been successfully engineered to be protected against a lethal virus?
- (B) Give two application of tissue culture. 2
- (C) Explain sterilization techniques in plant tissue culture. 3
- (D) Describe MS media preparation. 5
- 7 (A) Answer the following Objective type questions : 4
- (1) Define - hybridization.
  - (2) The product of hybridization is known as \_\_\_\_\_
  - (3) Mound layering is also known as \_\_\_\_\_
  - (4) Explain the term : clone.
- (B) Write a note on Bagging. 2
- (C) Explain compound layering. 3
- (D) Describe - Budding as vegetative propagation method. 5
- 8 (A) Answer the following Objective type questions : 4
- (1) Give the name of different type of cutting?
  - (2) Write any two advantage of cutting method.
  - (3) Which season is ideal for grafting of deciduous plants?
  - (4) What is the size of rectangular tags used in tagging?

- (B) Write a note on emasculation. **2**
- (C) Write a note on - Whip grafting **3**
- (D) Describe - Pedigree method. **5**
- 9** (A) Answer the following Objective type questions : **4**
- (1) Husk of coconut is made up of :
  - (2) The term phloem is coined by \_\_\_\_\_
  - (3) Define the word - Plant anatomy.
  - (4) Write the main components of xylem.
- (B) Write a note on - Tracheids. **2**
- (C) Explain Vessels. **3**
- (D) Describe sclerenchyma. **5**
- 10** (A) Answer the following Objective type questions : **4**
- (1) Collenchyma shows deposition of \_\_\_\_\_
  - (2) Which tissues is function as mechanical tissue?
  - (3) The size of the stem increases in the width due to
  - (4) The dead element present in the phloem is :
- (B) Write a note on - Parenchyma. **2**
- (C) Describe Collenchyma. **3**
- (D) Give information about double staining method. **5**
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