



RX-003-1016046

Seat No. _____

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

March - 2019

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 all the questions.
(2) Draw neat and labelled diagram wherever necessary
(3) Figures to the right side indicate total marks for the questions

- 1 (A) Answer the following Objective type questions : 4
(1) Chiasmata firstly seen in _____
(2) The scientist who had given the theory of linkage is _____
(3) Write the function of r - RNA.
(4) Define: mutagens
- (B) Answer in brief : (Any **One** out of Two) 2
(1) Write a note on - Hybrid DNA model
OR
(2) Give information about m - RNA.
- (C) Answer in detail : (Any **One** out of Two) 3
(1) Describe the structure of t - RNA.
OR
(2) Explain temperature as mutagens.

- (D) Write a note on : (Any **One** out of Two) **5**
- (1) Two plane theory.
- OR**
- (2) Describe Coupling and Repulsion hypothesis by Bateson and Punnett hypothesis.
- 2** (A) Answer the following Objective type questions : **4**
- (1) Who discovered the plasmid pBR322?
- (2) What is the techniques used to transfer RNA onto nitrocellulose paper?
- (3) In western blotting, sample proteins are separated using _____.
- (4) What are cosmids?
- (B) Answer in brief : (Any **One** out of Two) **2**
- (1) Write a note on -Restriction endonuclease.
- OR**
- (2) Explain Blue white screening methods.
- (C) Answer in detail : (Any **One** out of Two) **3**
- (1) Describe regulations of gene expression by Operon.
- OR**
- (2) Explain - Bacteriophages as vector.
- (D) Write a note on : (Any **One** out of Two) **5**
- (1) Explain - Plasmid as vector.
- OR**
- (2) Explain Nucleic acid Hybridisation methods
- 3** (A) Answer the following Objective type questions : **4**
- (1) Define - Explant.
- (2) The first transgenic crop was _____
- (3) Give the full form of PRSV.
- (4) The optimum pH of the MS medium is :

- (B) Answer in brief : (Any **One** out of Two) **2**
- (1) Write the limitations for successful Cryopreservation.
- OR**
- (2) Write about the genes utilized for the development of transgenic cotton hybrids in India.
- (C) Answer in detail : (Any **One** out of Two) **3**
- (1) Explain Ex-situ conservation of germplasm.
- OR**
- (2) Describe Bergmann's Cell plating Technique.
- (D) Write a note on : (Any **One** out of Two) **5**
- (1) Give information about GM Papaya.
- OR**
- (2) Explain sterilization techniques in plant tissue culture.
- 4 (A) Answer the following Objective type questions : **4**
- (1) The basis of green revolution is _____
- (2) What is hybrid?
- (3) Give name of different type stem cutting.
- (4) Explain the term : clone.
- (B) Answer in brief : (Any **One** out of Two) **2**
- (1) Write a note on - Whip grafting
- OR**
- (2) Write the advantages of cutting.
- (C) Answer in detail : (Any **One** out of Two) **3**
- (1) Discuss hybridization techniques to produce hybrid plants.
- OR**
- (2) Explain Budding as vegetative propagation method.

(D) Write a note on : (Any **One** out of Two) **5**
(1) Describe : Bulk method.

OR

(2) Explain layering as vegetative propagation method.

5 (A) Answer the following Objective type questions : **4**

- (1) Sieve element was discovered by _____
- (2) Which tissues function as mechanical tissue?
- (3) Collenchyma shows deposition of _____
- (4) Bordered pits are found in _____

(B) Answer in brief : (Any **One** out of Two) **2**

(1) Write a note on -Tracheids.

OR

(2) Write about Parenchyma.

(C) Answer in detail : (Any **One** out of Two) **3**

(1) Explain anomalous secondary growth in Bougainvillea stem

OR

(2) Describe the Phloem tissue with figure.

(D) Write a note on : (Any **One** out of Two) **5**

(1) Give information about the double staining methods.

OR

(2) Describe anomalous secondary growth in Salvadoria stem.
