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P-003-1016046 Seat No. _____

B. Sc. (Sem. VI) (CBCS) (WEF-2016) Examination

March / April - 2020

B - 601 : Botany

(Genetics, Molecular)

Faculty Code : 003

Subject Code : 1016046

Time : $2\frac{1}{2}$ Hours] [Total Marks : **70**

Instructions : (1) This question paper contains five questions. All are compulsory.

(2) Draw neat and labeled diagrams wherever necessary.

(3) Figures to the right indicate marks.

1 (A) Objective type question : **4**

(1) Which scientist proposed the theory of Linckage?

(2) Give the function of m-RNA

(3) What are mutagens?

(4) When is Chiasmata seen?

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

(1) Write about ribosomal RNA

(2) Discuss Hybrid DNA model.

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

(1) Discuss physical mutagen: Radiation

(2) Discuss detailed structure of m-RNA

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

(1) Write short note on linkage.

(2) Discuss two plane theory

2 (A) Objective type question : **4**

(1) Which antibiotic resistant genes are present in pBR322?

(2) Define : Blotting

(3) What are Cosmids?

(4) Which macromolecule is treated in Western Blotting?

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

(1) Write a note on Restriction endonuclease.

(2) Give the uses of Blue White colony screening in RDT.

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

(1) Discus pBR322 vector in detail.

(2) Discuss Bacteriophage as a vector

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

(1) Write short note on Lac-Operon

(2) Discuss Nucleic acid hybridization technique.

3 (A) Objective type question : **4**

(1) Define: Totipotency

(2) The full form of BT is _____

(3) _____ is used as solidifying agent in PTC.

(4) The first transgenic crop was

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

(1) Enlist type of sterilization techniques used in PTC.

(2) Give details about Genetically Modified Papaya.

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

(1) Which techniques are used for germplasm conservation?

(2) Give outline for preparing genetically modified plant.

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

(1) Discuss cryopreservation in detail.

(2) Give information about BT Cotton in detail.

4 (A) Objective type question : **4**

(1) What is green revolution?

(2) Define : Hybrid

(3) Explain the term: clone

(4) Give name of different type of stem cutting.

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

(1) Write a note on tongue grafting.

(2) Give advantages if cutting.

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

(1) Describe : Bulk Method

(2) Write a note on Budding

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

(1) Discuss Pedigree method of hybridization

(2) Write a note on: Layering

5 (A) Objective type question : **4**

(1) What are sieve elements?

(2) Parenchyma that functions as photosynthetic cells are known as _____

(3) Broad pits are found in _____

(4) What is the function of companion cell?

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

(1) What are fibers? Give its function.

(2) Write about sclerenchyma.

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

(1) Describe anomalous secondary growth in Salvadora stem

(2) What is double staining? Explain with example.

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

(1) Write a note on: Anomalous secondary growth in Bougainvillea stem

(2) Discuss complex tissue: Phloem