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P-003-001611 Seat No. _____

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

March / April - 2020

B - 601 : Botany

(Genetics, Molecular Biology, Bio Tech, Bio Info.and Anatomy)

(Old Course)

Faculty Code : 003

Subject Code : 001611

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

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

(2) Draw neat and labeled diagram wherever necessary.

(3) Figure to the right indicate marks.

1 Write answer in very short : **20**

(1) What is full form of NCBI?

(2) State the statement true or false : transgenic plant can be used as bioreactor.

(3) Modern biotechnology is based on _____

(4) Write the function of epidermis.

(5) Polyploidy means _____

(6) Intra fassicular cambium is situated _____

(7) Which enzyme is used in manufacture of detergent for removing proteinaceous strain from the cloth?

(8) What is the used to take section in ultra microtome ?

(9) Write the full form of PTC.

(10) Which bacteria have found extensive use in genetic engineering work in plants?

(11) What is interxylary phloem?

(12) The most common from end system to all the data bases maintained by NCB _____

(13) Autopolyploidy can be induced artificially by _____

(14) Which type of GM rice having high content of vitamin-A?

(15) Who is discovered by microtome?

(16) Restriction enzymes were firstly isolated from by _____

(17) Bio informatics is also called _____

(18) Write the types of polyploidy.

(19) Write the function of xylem.

(20) Sieve tube have _____ Septa.

2 (A) Answer in short : (Any **Three**) **6**

(1) What global and local alignemt.

(2) Write the six essential features of modern concept of gene.

(3) Write the significance of data banking.

(4) Explain :sieve cells.

(5) Distinguish between : Collenchyma and sclerenchyma.

(6) Short note on :BT cotton.

(B) Write answer in brief : (Any **Three**) **9**

(1) Distinguish between : autopolyploidy and allopolyploidy.

(2) Write note on : insect resistant transgenic plants.

(3) Explain the formation of cambium ring in dicor root. (necessary diagram)

(4) Discuss the role of bio informatics in gene therapy.

(5) Write six advantage of pure line selection.

(6) Describe application of tissue culture in crop improvement.

(C) Write answer in detail : (Any **Two**) **10**

(1) Explain any two biological database.

(2) Write the restriction endonuclease.

(3) What is secondary growth ? Describe in dicot stem. (diagram necessary)

(4) Describe the various techniques used in recombinant DNA technology.

(5) Discuss cytoplasmic inheritance in yeast .(diagram necessary).

3 (A) Answer in short : (Any **Three**) **6**

(1) Write the use of enzyme in food industry.

(2) What is casparian strip[and it's function.

(3) Explain : mesophyll tissue.

(4) Write the disadvantage of mass selection.

(5) Explain the characteristic features of an ideal plasmid vector.

(6) Describe: freezing microtome.

(B) Write answer in brief : (Any **Three**) **9**

(1) Explain :DNA cleavage stlyle.

(2) Discuss : media preparation in tissue culture.

(3) Explain : gene scan.

(4) Write the advantage of transgenic plants.

(5) Write down the technique for block preparation in histology.

(6) Explain : inerxylary phloem.

(C) Write answer in detail : (Any **Two**) **10**

(1) Describe the tools used in bio informatics.

(2) Explain : polyploidy in detail with examples.

(3) Describe the preparation of M. S. meduim in tissue culture.

(4) Explain the lac operon concepts.

(5) Explain: Tissue culture.
