Enrollment No.....

Master of Science (Botany)
Third Semester Main Examination, December-2021
Cytogenetics & Genetics [MSB303T]

Time: 3:00 Hrs **Max Marks 85**

Note: Attempt all questions.
Part 'A' is 10 marks & part 'B' is 7 marks.

Q.1 (a) Describe Genetics of prokaryotes and eukaryotic. (10)
(b) Explain Genetics of mitochondria and cylonplash. (7)
OR
(a) Write on essay on bacteriophage in details.
(b) Explain the mappings of bacteriophage genome.

Q.2 (a) Explain Genetic Recombination in detail. (10)
(b) Describe the Chromosome mapping. (7)
OR
(a) Explain the Somatic cell genetics in detail.
(b) Write an essay on construction of molecular maps.

Q.3 (a) Explain the Mutation in detail. (10)
(b) Describe the site directed mutagenesis. (7)
OR
(a) Explain the physical and chemical mutagens.
(b) Write a short note on Moutation induced by transposons.

Q.4 (a) Explain Robertsonian on translocation. (10)
(b) What are the types of aneuploidy. (7)
OR
(a) Explain transmission of monasomics and trisomics.
(b) Explain B-A translocation in detail.

Q.5 (a) Explain Nuclear DNA content in detail. (10)
(b) Describe the Molecular cytogereties (7)
OR
(a) Elaborate C-Value paradox in detail.
(b) Write a short note on exploitation of hybrid viogour.

Enrollment No.....

Master of Science (Botany)
Third Semester Main Examination, December- 2021
Molecular Biology of Plants [MSB304T]

Time: 3:00 Hrs **Max Marks 85**

Note: Attempt all questions.
Part A is 10 marks and part B is 7 marks.

Q.1 (a) What causes DNA damage with example?
(b) Describe –Z structure and example?

OR

(a) Write short note on messenger DNA.

(b) What is RNA sapling with structure.

Q.2 (a) Write A,B and Z forms of DNA.
(b) describe the DNA structure in detail

OR

(a) Explain the cis trans test in detail.

(b) Describe the gene structure in detail.

Q.3 (a) Explain the genetic fire structure.
(b) Describe the ribosomes in details and their structure.

OR

(a) Explain the clongation and termination of ribosomes.
(b) Explain the protein synthesis in details.

Q.4 (a) Write the role of cyclins and cyclin dependent kinases.
(b) Write the cell cycle in details.

OR

(a) Explain mechanism of Programming cell death.
(b) Write the 4 stage of cell cycle and with examples.

Q.5 (a) What is fish analysis used for.

(b) What is in situ hybridization and different types of in situ hybridization probes?

OR

(a) Describe the physical mapping of genes on chromosomes.

(b) What is immunochemical reaction and application of immunology.

Enrollment No.....

Master of Science (Botany)

Third Semester Main Examination, December-2021

Plant Physiology [MSB301T]

Time: 3:00 Hrs **Max Marks 85**

Note: Attempt all questions.
Part 'A' is 10 marks & 'B' is 7 marks.

Q.1 (a) Explain the role of verholization auxiris .
(b) Explain the physiological effect of and gibberellins.

OR

(a) What do you mean by thermodynamics.
(b) Describe the plant water relations.

Q.2 (a) What is cyclic nucleotides.
(b) What is calcium calmodulin cascade.

OR

(a) Explain salinity stress? Describe it.
(b) Write the phloem loading and unloading details.

Q.3 (a) Describe Hormone receptors? Explain how it work's.
(b) Write the signal transdrction and Gere expression.

OR

(a) Write the note on Salicylic acid.
(b) Explain the role of vernalization

Q.4 (a) Write the note on floral induction and development.
(b) Describe the plant water relations.

OR

(a) Explain the effect of viral infection on plant metabolism.
(b) What is phytochormes and Cytochromes? Write its biological properties.

Q.5 (a) Explain salinity stress? Describe it.
(b) Describe the concepts of Freezing heat and oxidative stress.

OR

(a) How does salt stress affect plant growth and their causes.
(b) Which are the example of drought resisting and water deficit and drought resistance in plants.

Enrollment No.....

Master of Science (Botany)
Third Semester Main Examination, December -2021
Plant Biochemistry & Metabolism [MSB302T]

Time: 3:00 Hrs **Max Marks 85**

Note: Attempt all questions.
Part 'A' is 10 marks & B is 7 marks.

Q.1 (a) Write note on fundamentals of Enzymology.
(b) What is an example of allosteric regulation.

OR

(a) What are the mechanism enzyme action.
(b) Why is determining enzyme kinetics importance.

Q.2 How do Photosynthetic organism use light energy to combine carbon dioxide and water

OR

(a) Write the C4 cycle in detail.
(b) Write the CAM pathway in detail.

Q.3 (a) Describe the oxidative pentose phosphate pathway in detail.
(b) Explain the Electron transplant and ATP synthesis.

OR

(a) Describe the respiration and lipid Metabolism in detail.
(b) Explain the electron mechanism and glycolysis.

Q.4 (a) Explain fatty acid bio synthesis.
(b) Write the structure and function of lipid.

OR

(a) How to lipid important to our body.
(b) What are lipid classified and write their function with suitable example.

Q.5 (a) Explain the Nitrogen and Sulphate metabolism.
(b) What is the role of Rhizobium in nitrogen fixation.

OR

(a) Where do Rhizobium bacteria live what is their function and application.
(b) Why are the sulfates important for protein synthesis.