

Master of Science (Botany)
Fourth Semester Main Examination, June-2021
Plant Cell Tissues and Organ Culture [MSB401T]

Time: 3:00 Hrs

Max Marks 85

**Note: Attempt all questions. Each question has two parts.
Part A is 10 marks and part B is 7 marks.**

- Q.1 (a) Describe tissue culture.
(b) Write history and scope of tissue culture.
OR
(a) Write concept of cellular differentiation.
(b) Explain the term totipotency.
- Q.2 (a) Write techniques of tissue culture.
(b) What do you understand by Organ culture?
OR
(a) Describe structure & function of embryo.
(b) Describe the term vitro fertilization.
- Q.3 (a) What do you understand by organogenesis.
(b) Write fundamental aspect of morphogenesis.
OR
(a) What is somatic embryogenesis?
(b) Write mechanism of embryogenesis.
- Q.4 (a) Describe somatic hybridization.
(b) Explain protoplast isolation?
OR
(a) Write hybrid selection and regeneration.
(b) Write limitation of protoplast research.
- Q.5 (a) Write application of plant tissue culture.
(b) What is clonal propagation explain it.
OR
(a) Write production of Secondary metabolite.
(b) Write the Plant cell & Tissue culture biology discussion & their application.

Master of Science (Botany)
Fourth Semester Main Examination, June-2021
Biotechnology & Genetic Engineering [MSB402T]

Time: 3:00 Hrs

Max Marks 85

Note: Attempt all questions. Each question has two parts.
Part A is 10 marks and part B is 7 marks.

- Q.1 (a) Write Basic concept of Biotechnology.
(b) What is scope of Intellectual property?
OR
(a) Write ecological possible risks?
(b) Ethical couerus what do you understand by this?
- Q.2 (a) What is the purpose of grew closing.
(b) Write constriction of genomic.
OR
(a) What do you understand by DNA synthesis?
(b) Describe DNA fingerprint?
- Q.3 (a) Describe transgenic developments.
(b) Describe genetic engineer.
OR
(a) Describe T DNM & transposo medicaled.
(b) Explain chloloropast and its Utility.
- Q.4 (a) Microbial genetic moupulation?
(b) Genetic important's of industrial microbes.
OR
(a) Explain Nitrogen fixers.
(b) Describe fermentation technology?
- Q.5 (a) Physical mapping of gews?
(b) Describe artificial chromosomes.
OR
(a) Genome projects explain.
(b) Describe protein profiling and its significance.

Master of Science (Botany)
Fourth Semester Main Examination, June-2021
Plant Pathology [MSB403T]

Time: 3:00 Hrs

Max Marks 85

Note: Attempt all questions.

Part A is 10 Marks and Part B is 07 Marks.

- Q.1 (a) Write the methods of studying plant diseases?
(b) Comment on physiology of disease plants?
OR
(a) Explain the disease of Rice
(b) Write the History and progress of plant pathology.
- Q.2 (a) Write a note on defense mechanisms in plants?
(b) Hormonal imbalance symptoms, treatment and causes.
OR
(a) Write the development of Pathogen role of enzyme.
(b) How do plant pathogens Spread.
- Q.3 (a) Describe the prevention of disease in plants?
(b) Write factors effecting disease resistance in plants..
OR
(a) Describe term and concepts in plant pathology.
(b) Methods of disease transmission in plants.
- Q.4 (a) Explain the importance of biological control in plants?
(b) Describe chemical methods for plant disease control.
OR
(a) Describe the prevention of disease in plant's.
(b) Methods of disease transmission in plant's.
- Q.5 (a) Describe the disease that occur in different crops? (any two)
(i) Jawar (ii) Barley
(b) Write about the sugar cane disease.
OR
(a) Describe the method of control of disease in different crops (any two)
(i) Mango (ii) Pulses (iii) Ground nuts
(b) Discuss the disease in Cotton and its methods of Control?

Master of Science (Botany)
Fourth Semester Main Examination, June-2021
Pollution Ecology [MSB404T]

Time: 3:00 Hrs

Max Marks 85

**Note: Attempt all questions. Each question has two parts.
Part A is 10 Marks and Part B is 7 Marks.**

- Q.1 (a) Explain the biological indicators of pollution in detail.
(b) Write note on Environment pollution.
OR
(a) Describe the Bhopal gas tragedy source of water pollution?
(b) Explain the classification of contaminants and pollutant in detail's?
- Q.2 (a) Write an essay on transport and desorption.
(b) Write the sources of Air pollution.
OR
(a) Write the effect of Water pollution.
(b) Role of an individual in prevention of pollution.
- Q.3 (a) Discuss the radio active pollution.
(b) Describe the different analytical methods for monitoring the soil pollution?
OR
(a) Explain the monitoring system of air pollution?
(b) Write note on Environment pollution control measures.
- Q.4 (a) Explain the transport and dispersion.
(b) What are some consequences of Air pollution & the 5 effects of air pollution.
OR
(a) How do we prevent air pollution?
(b) How can we help stop of Water Pollution.
- Q.5 (a) Write a short note on environmental conservation.
(b) Write an article on the environment protection Act in M.P.
OR
(a) Write a short note on the main soil found in India.
(b) What are the causes for Soil pollution & How can we control soil Pollution .