F–1349	Sub. Code
	7MBO2C3

M.Sc. DEGREE EXAMINATION, APRIL 2024

Second Semester

Botany

FUNDAMENTAL PROCESSES, CELL COMMUNICATION AND CELL SIGNALLING

(CBCS – 2017 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. RNA Splicing
2. RNA Editing
3. Translation inhibitors
4. Gene Silencing
5. Cell adhesion
6. Quorum sensing
7. T – cell epitopes
8. Immunogenicity
9. Tool–like receptors
10. Vaccines

Part B (5 × 5 = 25)

Answer **all** questions, choosing either (a) or (b).

11. (a) Explain about DNA replication.

Or

(b) Write about DNA damage and repair mechanism.

12. (a) Explain the importance of proof reading in Translation.

Or

(b) What are the steps involved in protein synthesis.

13. (a) Explain the regulation of hematopoiesis.

Or

(b) Write the general principles of cell communication.

14. (a) Write note on monoclonal antibody.

Or

(b) Briefly explain about antigen–antibody interaction.

15. (a) Write note on hypersensitivity and autoimmunity.

Or

(b) Explain about primary and secondary immune modulation.

Part C

$(3 \times 10 = 30)$

Answer any **three** questions.

16. Write an essay on structure and function of RNA.

17. Describe the control of gene expression in Prokaryotes and Eukaryotes.

18. Write an essay on cell signalling hormones and their receptors.

19. Describe the structure and function of antibody molecules.

20. Describe immune response mechanism against Malaria and Tuberculosis.

F–1350

Sub. Code
7MBO3E4

M.Sc. DEGREE EXAMINATION, APRIL 2024

Third Semester

Botany

Elective: PLANT BREEDING

(CBCS – 2017 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. Define plant breeding
2. Define Genetic erosion
3. Define Apomixis
4. What is hybridization?
5. Define Self pollination
6. What is acclimatization?
7. Define Aneuploidy
8. What is chemical mutation?
9. Define hybrid vigour
10. What is back cross?

Part B (5 × 5 = 25)

Answer **all** questions, choosing either (a) or (b).

11. (a) Explain the basic principles in plant breeding

Or

(b) Wine note on objectives of plant breeding

12. (a) Explain about hybridization techniques

Or

(b) Briefly explain about advantage and limitations of Hybridizations

13. (a) Write note on centers of origin and domestication of crop plants

Or

(b) Give an account on plant genetic resources.

14. (a) Write note on role of mutations in plant breeding.

Or

(b) Explain the salient features of Polyploidy.

15. (a) Briefly explain about polygenic inheritance

Or

(b) Write the salient features of heterosis and its application

Part C

$(3 \times 10 = 30)$

Answer any **three** questions.

16. Write a essay on mode of reproduction in crop plants.

17. Describe the breeding methods in self–pollinated in plants.

18. Give a detailed account on cross pollinated and vegetatively propagated plants.

19. Write an essay on distant hybridization and role of biotechnology in crop improvement.

20. Write an essay on quantitative inheritance.

———————