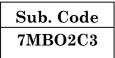
**F-0676** 



#### M.Sc. DEGREE EXAMINATION, NOVEMBER 2023.

### Second Semester

#### **Botany**

## FUNDAMENTAL PROCESSES CELL COMMUNICATION AND CELL SIGNALING

### (CBCS - 2017 onwards)

Time : 3 Hours

Maximum : 75 Marks

**Part A**  $(10 \times 2 = 20)$ 

Answer **all** questions.

- 1. What is DNA damage?
- 2. Define DNA repair mechanism.
- 3. Explain Transcription.
- 4. Explain Translation.
- 5. Give some examples of second messengers.
- 6. What is transduction pathways?
- 7. Define antigenicity.
- 8. Share some examples of antibody engineering.
- 9. Define antibody engineering.
- 10. Define Immunity.

#### Part B

 $(5 \times 5 = 25)$ 

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

11. (a) Write a short note on repair mechanism.

Or

- (b) Write notes on RNA synthesis.
- 12. (a) Briefly explain the aminoacylation of tRNA.

Or

- (b) Explain the identity of tRNA.
- 13. (a) Write a short note on integrins.

Or

- (b) Explain about Quorum sensing.
- 14. (a) What are the innate immune system?

Or

- (b) Give an account on adaptive immune system.
- 15. (a) How to analyze complement systems?

Or

(b) Comment on Primary immune modulation.

**Part C**  $(3 \times 10 = 30)$ 

Answer any three questions.

- 16. Explain fidelity of replication
- 17. Write a essay on Homologous and site specific
- 18. Describe the translational inhibitors

 $\mathbf{2}$ 

- 19. Briefly analyse the antibody interactions
- 20. Discuss Humoral immune response

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### M.Sc. DEGREE EXAMINATION, NOVEMBER 2023

# Third Semester

# Botany

### **Elective - PLANT BREEDING**

# (CBCS – 2017 onwards)

Time : 3 Hours

Maximum : 75 Marks

**Part A**  $(10 \times 2 = 20)$ 

Answer all questions.

Write a short note on

- 1. Asexual reproduction.
- 2. Genetic variability.
- 3. Pure-line selection.
- 4. Apomixis.
- 5. Germplasm.
- 6. Acclimatization.
- 7. Autopolyploid.
- 8. Genetically Modified Crop.
- 9. Polygenic trait.
- 10. Heterosis.

**Part B**  $(5 \times 5 = 25)$ 

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

11. (a) Comment on the undesirable consequences in breeding.

Or

- (b) Give an account on selection of characters in breeding.
- 12. (a) Give an account on breeding methods for vegetatively propagated crops.

Or

- (b) Write short notes on breeding methods for self pollinated crops.
- 13. (a) Give an account on domestication on plants.

Or

- (b) Discuss the selection methods in breeding self pollinated crops.
- 14. (a) Write short notes on mutation breeding.

Or

- (b) Give an account on distant hybridization in breeding.
- 15. (a) Discuss the concept of quantitative inheritance with suitable example.

Or

(b) Comment on the genetic basis of inbreeding depression.

 $\mathbf{2}$ 

**Part C** (3 × 10 = 30)

Answer any **three** questions.

- 16. Describe the modes of reproduction in plants.
- 17. Explain the procedure of hybridization and add a note on its advantages.
- 18. Describe the selection methods in breeding cross pollinated crops.
- 19. Write an essay on polyploidy and its role in plant breeding.
- 20. Discuss back crossing : method and application.

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