B–23–Y

Roll No. .....

Total No. of Questions : 14]

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XIIARJKUT23

9123–Y

BOTANY

(Biology)

Time : 1½ Hours] **[Maximum Marks : 35**

SECTION–A 1 each

1. The lac operon gets switched on when :

   (A) Lactose is available and it binds to the repressor

   (B) Repressor binds to operator

   (C) RNA polymerase binds to the operator

   (D) None of these

2. What is Biofortification ?

3. Name the bird which has recently become extinct ?

4. What is PAN ?

SECTION–B

2 each

5. What do you understand by *ex-situ* conservation ? Name some *ex-situ* conservation strategies.

6. How will you differentiate between a nuclear endosperm and a cellular endosperm ?

7. What is self-incompatibility ? What is difference between sporophytic and gametophytic incompatibility ?

Or

What is Entomophily ? What are the characteristics of entomophilous flowers ?

SECTION–C

3 each

8. What are the main causes of loss of Biodiversity ?

9. "DNA molecule is more stable genetic material than RNA." Explain, why ?

10. What are GMOs ? What are their pros and cons ?

11. What are Biocontrol Agents ? Giving examples show how they control pest infestation.

12. Describe the development of a mature embryo sac from a megaspore mother cell in angiosperms.

Or

Describe the development of male gametes from microspore in flowering plants.

SECTION–D

5 each

13. Inheritance pattern of flower colour in garden pea plant differs from that found in 4 O'clock plant. By showing crosses upto F_2 generation, explain why this difference is observed ?

Or

What is semiconservative mode of DNA replication ? How was it experimentally proved and by whom ?

14. What are pioneer and climax communities ? Describe the process of ecological succession and differentiate between primary and secondary succession.

Or

What are Eltonian Pyramids ? With the help of one example each explain upright and inverted pyramids of number. Why is the pyramid of energy always upright ?