

B-23-X

Roll No...

Total No. of Questions : **14**

[Total No. of Printed Pages : **4**

XIIARJKUT23

9123-X

BOTANY

(Biology)

Time : 1½ Hours]

[Maximum Marks : 35

SECTION-A

1 each

1. Control of gene expression takes place at the level of ;
(A) DNA replication
(B) Translation
(C) Transcription
(D) None of these
2. What is Cellular Totipotency ?
3. Name the organization that publishes the red list of species.
4. What is BOD ?

XIIARJKUT23-9123-X

B-23-X

Turn Over

SECTION-B

2 each

5. What do you understand by *in-situ* conservation ? Name some *in-situ* conservation strategies.
6. Describe the various parts of an orthotropous ovule.
7. What are Chasmogamous Flowers ? Why does a cleistogamous flower show autogamy only ?

Or

What is Anemophily ? What are the characteristics of anemophilous 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 ?

B-23-Y

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BOTANY

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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 ?

XIIARJKUT23-9123-Y

Turn Over

B-23-Y

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

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SECTION-D

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B-23-Z

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9123-Z

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(Biology)

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SECTION-A

1 each

1. ✓ Select incorrectly matched pair :

(A) AUG, GUG — Initiation Codon

(B) AUG, GUG — Methionine, Valine

(C) UAA, UAG, UGA— Termination Codon

(D) None of these

2. ✓ What is Somaclonal variation ?

3. ✓ The technique of preserving seeds, vegetative propagules, sperms, ova and tissues at temperature of liquid nitrogen is called

(Fill in the blank)

4. ✓ What is e-Waste ?

XIIARJKUT23-9123-Z

B-23-Z

Turn Over

SECTION-B

2 each

5. ✓ What are Hot-spots of Biodiversity ? Name Hot-spots found in India.
6. ✓ Name the wall layers of a pollen sac from periphery to the centre.

What is the function of the innermost layer ?

7. ✓ Name any *two* outbreeding devices. Briefly describe any *one* of them.

Or

What is Ornithophily ? What are the characteristics of ornithophilous 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 ?

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