B–10–X

Roll No.....

Total No. of Questions : 16] [Total No. of Printed Pages : 4

12th ARM(SZ)JKUT2024

1110–X

BOTANY

(Biology)

Time : 1½ Hours] [Maximum Marks : 35

SECTION–A 1 each

1. A diploid organism is heterozygous for 3 loci; how many types of gametes can be produced ?

(A) 3

(B) 6

(C) 8

(D) 12

2. Find the odd one :

(A) Cephalosporium acremonium

(B) Acetobacter aceti

(C) Clostridium butylicum

(D) Lactobacillus

3. Which one is not a biofertilizer ?

(A) Azotobator

(B) Bacillus thuringiensis

(C) Clostridium

(D) Azolla

4. Which is an *in-situ* methowd of conservation ?

(A) Cryopreservation

(B) Biosphere Reserves

(C) Zoological Parks

(D) Wildlife Safari Parks

5. The second trophic level in a lake is :

(A) Phytoplankton

(B) Zooplankton

(C) Benthos

(D) Fishes

SECTION–B

2 each

6. Define Apomixis. Give its importance.

7. What is Double fertilization ?

8. Write a note on various types of processes that occur simultaneously during decomposition of detritus.

9. What is the key difference between Primary and Secondary sewage treatment ?

10. Draw schematic structure of a Transcription unit.

SECTION–C

3 each

11. What are Multiple Alleles ? Give their characteristics.

12. What is Tissue Culture ? Give its applications.

13. Flowers have evolved various strategies to prevent self pollination. Write a note on those strategies.

14. What are Hotspots ? Give an example and also write criteria for hotspots.

15. What are properties of genetic material ?

SECTION–D

5

16. Describe the attributes that populations possess but not individuals.

Or

Define Ecological Pyramid. Name the three types of ecological pyramids. What information is conveyed by each pyramid regarding structure, functions and energy in the ecosystem ?

B–10–Y

Roll No.....

Total No. of Questions : 16] [Total No. of Printed Pages : 4

12th ARM(SZ)JKUT2024

1110–Y

BOTANY

(Biology)

Time : 1½ Hours] [Maximum Marks : 35

SECTION–A

1 each

YASIR

1. In RNA, every nucleotide residue has an additional —OH group presents at :

(A) 1′-position

(B) 2′-position

(C) 3′-position

(D) 5′-position

2. Bt cotton is not :

(A) A GM product

(B) Insect resistant

(C) A bacterial gene expressing system

(D) Resistant to all pesticides

3. Which one is Biofertilizer ?

(A) Mycorrhiza

(B) Nitrogen fixing bacteria

(C) Nitrogen fixing cyanobacteria

(D) All of these

4. Which is not an *in-situ* method of conservation ?

(A) Biosphere reserves

(B) Wildlife sanctuary

(C) National parks

(D) Cryopreservation

5. An orchid growing as an epiphyte on a mango branch represents an example of :

(A) Mutualism

(B) Commensalism

(C) Protocooperation

(D) Ammensalism

SECTION–B

2 each

6. Define the terms with one example for each :

(i) Cleistogamy

(ii) Epihydrophily

7. What is Double fertilization ?

8. Write a note on various types of processes that occur simultaneously during decomposition of detritus.

9. What is the key difference between Primary and Secondary sewage treatment ?

10. Draw schematic structure of a Transcription unit.

SECTION C

3 each

11. Explain chromosomal theory of inheritance.

12. What is Tissue Culture ? Give its applications.

13. Flowers have evolved various strategies to prevent self pollination. Write a note on those strategies.

14. What are Hotspots ? Give an example and also write criteria for hotspots.

15. What are properties of genetic material ?

SECTION–D

5

16. Describe the attributes that populations possess but not individuals.

Or

Define Ecological Pyramid. Name the three types of ecological pyramids. What information is conveyed by each pyramid regarding structure, functions and energy in the ecosystem ?

B–10–Z

Roll No.....

Total No. of Questions : 16] [Total No. of Printed Pages : 4

12th ARM(SZ)JKUT2024

1110–Z

BOTANY

(Biology)

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

SECTION–A 1 each

1. Which triplet codon does not code for any amino acid ?

(A) UUU

(B) UUA

(C) UAG

(D) UUG

2. Supply of oxygen to the biogas plant will have :

(A) Positive effect

(B) Negative effect

(C) No effect

(D) None of these

3. Baker's yeast is :

(A) S. ludwingii

(B) S. cerevisiae

(C) S. octosporus

(D) Schizosaccharomyces

4. Which group has more species than all the vertebrate species combined ?

(A) Fungi

(B) Insects

(C) Algae

(D) Bryophytes

5. Population density is equal to :

(A) [Natality + Immigration] + [Mortality + Emigration]

(B) [Natality – Immigration] + [Mortality – Emigration]

(C) [Natality + Immigration] – [Mortality + Emigration]

(D) [Natality + Mortality] – [Immigration + Emigration]

SECTION–B

2 each

6. Describe the development of male gametophyte.

7. What is Double fertilization ?

8. Write a note on various types of processes that occur simultaneously during decomposition of detritus.

9. What is the key difference between Primary and Secondary sewage treatment ?

10. Draw schematic structure of a Transcription unit.

SECTION–C

3 each

11. Translation involves steps like activation of amino acids, charging, initiation, elongation, termination and modification. Throw light on first two steps.

12. What is Tissue Culture ? Give its applications.

13. Flowers have evolved various strategies to prevent self pollination. Write a note on those strategies.

14. What are Hotspots ? Give an example and also write criteria for hotspots.

15. What are properties of genetic material ?

SECTION–D

5

16. Describe the attributes that populations possess but not individuals.

Or

Define Ecological Pyramid. Name the three types of ecological pyramids. What information is conveyed by each pyramid regarding structure, functions and energy in the ecosystem ?