

HALF YEARLY EXAMINATION - 2024

Exam No.

Pudukkottai  
district

Time : 3-00 Hours

## XII - BIOLOGY

Marks : 70

Note: Candidate should answer Part-I (Bio-Botany) &amp; Part-II (Bio-zoology) in separate answer-books.

## (PART - I) BIO - BOTANY (Marks:35)

## SECTION - I

Note: 1) Answer all the questions. 2) Choose the correct answer. (8x1=8)

- Among the following characters which one was not considered by Mendel in his experimentation pea?
  - Stem - Tall or dwarf
  - Trichodermal glandular on non-trichodermal glandular
  - Seed - Green or yellow
  - Pod - inflated or constricted
- An allohexoploidy contains
  - Six different genomes
  - Six copies of three different genomes
  - Two copies of three different genomes
  - Six copies of one genome
- The prevention of large scale loss of biological integrity
  - Biopatent
  - Bioethics
  - Bio safety
  - Biofuel
- Which pair is not correctly matched?
 

a) Eurythermal	-	Artemisia tridentata
b) Stenothermal	-	Zostera
c) Pyrophilous	-	Pyronema confluens
d) Hemiparasites	-	Santalum
- Match.
 

1) Red gram	-	a) Paspalum scrobiculatum
2) Cashew nut	-	b) Vigna radiata
3) Green gram	-	c) Cajanus cajan
4) Kodomillet	-	d) Anacardium occidentale
- New world species of cotton
  - G. arboretum and G.hirsutum
  - G.herbaceum and G.barbadense
  - G.hirsutum and G.barbadense
  - G.arboretum and G.herbaceum
- Which of the following is incorrectly paired?
  - Wheat - Himgiri
  - Milch breed - Sahiwal
  - Rice - Ratna
  - Pusa Komal - Brassica
- Assertion: Genetic variation provides the raw material for selection  
Reason: Genetic variation are differences are genotypes of the individuals
  - Assertion is right and reason is wrong
  - Assertion is wrong and reason is right
  - Both assertion and reason are right
  - Both assertion and reason are wrong

	1	2	3	4
a)	b	a	c	d
b)	c	d	a	b
c)	c	d	b	a
d)	d	c	b	a

## SECTION - II

Note: Answer any four of the following questions.

(4x2=8)

- What is Cantharophily?
- What is Mutation?
- What do you know about Ligase?
- What is Deforestation?
- Differentiate primary introduction from secondary introduction.
- What is pseudo cereal?

## SECTION - III

Note: Answer any three of the questions. Question No.19 is compulsory. (3x3=9)

- Draw the labelled diagrammatic structure T.S of mature anther.
- Differentiate incomplete dominance and codominance.
- What is Totipotency?
- Define Ecology.
- Write the cosmetic uses of Aloe.

## SECTION - IV

Note: Answer all the following questions.

(2x5=10)

- Differentiate the structure of Dicot and Monocot seed.
  - Describe dominant epistasis with an example.

(OR)

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21. a) Various stages of succession are given below. From that rearrange them accordingly. Find out the type of succession and explain in detail.  
Reed swamp stage, phytoplankton stage, shrub stage, submerged plant stage, forest stage, submerged free floating stage, marsh meadow stage. (OR)  
b) Give details about other common medicinal plants.

(PART - I) **BIO - ZOOLOGY (Marks:35)**

**SECTION - I**

**Note: 1) Answer all the questions. 2) Choose the correct answer.**

(8x1=8)

1. Twins are conjoined twins, who are joined during birth  
a) Siamese twins  
b) Monozygotic twins  
c) Dizygotic twins  
d) Fraternal twins
2. Match: Column I Column-II
- |                    |               |                       |
|--------------------|---------------|-----------------------|
| A) Genital herbs - | 1) 10-90 days | a) A-3, B-2, C-1, D-4 |
| B) Hepatitis B -   | 2) 4-28 days  | b) A-4, B-3, C-2, D-1 |
| C) Trichomoniasis- | 3) 30-80 days | c) A-3, B-4, C-1, D-2 |
| D) cyphils -       | 4) 2-21 days  | d) A-4, B-2, C-3, D-1 |
3. Three children of a family have blood groups A, AB and B what could be the genotypes of the parents  
a)  $I^A I^B$  and  $I^O I^O$   
b)  $I^A I^O$  and  $I^O I^B$   
c)  $I^B I^B$  and  $I^A I^A$   
d)  $I^A I^A$  and  $I^O I^O$
4. The total number of nitrogenous bases in human genome is estimated to be about  
a) 3.5 million  
b) 35,000  
c) 35 million  
d) 3.1 billion
5. Vestigial organs appearing suddenly are called as  
a) Atavistic organs  
b) Atavimentary organs  
c) Organ of use  
d) Organ of disuse
6. The first synthetic was \_\_\_\_\_ vaccine produced  
a) mMR  
b) HB vaccine  
c) polio  
d) BCG
7. Need becomes greed? what is it refer to?  
a) Sustainable development  
b) unsustainable development  
c) Overexploitation of natural Resources  
d) Hapited fragmentation
8. Swine flu is caused by \_\_\_\_\_ virus strain  
a)  $H_1N_1$   
b)  $H_1N_1$   
c) HIV  
d) Rhino

**SECTION - II**

**Note: Answer any four of the following questions. (Shortly)**

(4x2=8)

9. A farmer asks an educated man whether a hen came first or an egg came first give your answer on basis of the concept of evolution.
10. Mention the symptoms of Down's syndrome.
11. What are the two structural differences between RNA and DNA?
12. What is Orisite'?
13. Define: Epidope and Paradope
14. What is connecting link, give an example.

**SECTION - III**

**Note: Answer any three of the questions. Question No.19 is compulsory. (3x3=9)**

15. Draw and label the diagram of mature sperm.
16. Give any two bio active molecules reduced by microbes and state their use.
17. Give short notes on '4R'.
18. Name the PCR which used to diagnose the 'Corono Virus'.
19. Differentiate between somatic cell gene therapy and germ line gene therapy.

**SECTION - IV**

**Note: Answer all the following questions.**

20. a) Short notes on: 1) Totipotency 2) Rosie 3) Disadvantages of cloning  
b) Explain Parthenogenesis. (OR)
21. a) What are the benefits of DNA fingerprinting?  
b) Explain the inheritance of colour blindness. (OR)