

Class : 12

Register

**FIRST REVISION EXAMINATION, JANUARY - 2025**

Time Allowed : 3.00 Hours]

**BIOLOGY**

[Max. Marks : 70

PART - I (Bio-Botany) (Marks : 35)

**SECTION - I**

- I. Note.(i) Answer All the questions. [akwaacademy.blogspot.com](http://akwaacademy.blogspot.com) 8×1=8  
 (ii) Choose the most appropriate answer from the given four alternatives and write the option code and corresponding answer.
- Choose the correct statement.(s) about tenuinucellate ovule.
    - Sporogenous cell is hypodermal
    - Ovules have fairly large nucellus
    - Sporogenous cells is epideemis
    - Ovules have single layer of nucellus tissue
  - Changing the codon AGC to AGA represents.
    - missense mutation
    - non sense mutation
    - Frame shift mutation
    - deletion mutation
  - The prevention of large scale loss of biological integrity?
    - Biopatent
    - Bioethics
    - Biosafety
    - Biofuel
  - Find the wrongly matched pair:
    - Endemism - Species confined to a region and not found any where else.
    - Hot spots - Western ghats
    - Ex-situ conservation - Zoological parks
    - Sacred groves - Sanitri hill of Rajasthan
  - New world species of cotton:
    - Gossipium arboretum
    - G. herbaceum
    - Both a and b
    - G. barbadense
  - An example for partial stem parasite
    - Balanophora
    - Orobanche
    - Viscum
    - Rafflesia
  - Use of plants for bioremediation is called as
    - Phytoremediation
    - Bioventing
    - Rhizofiltration
    - Composting
  - Loss of a pair of homologous chromosomes from the diploid set are called -----
    - Disomy
    - Nullisomy
    - Tetrasomy
    - Trisomy

**SECTION - II**

- II. Note : Answer any four questions. 4×2=8
- What is meant by plant breeding?
  - What is cybrid?
  - Write any two advantages of artificial seed.
  - What are the enzymes you can used to cut terminal end & internal phospho diester bond of nucleotide sequence?
  - What is cantharophily?
  - What is back cross?

**SECTION - III**

- III. Note : Answer any three questions. Question No. 19 is compulsory. 3×3=9
- What is Apomixis? Explain its types?
  - Write the difference between continuous and discontinuous variation.(any 3)
  - Write the applications of SCP.
  - How will your produce virus-free plants?
  - List out the significance of food web.

**SECTION - IV**

- IV. Note : Answer all the questions. 2×5=10
- (a) Explain Incomplete Dominance with an example.  
(OR)  
(b) What are Greenhouse gases? write the global warming effects on plants.
  - (a) Write the applications of plant tissue culture.  
(OR)  
(b) Enumerate the characteristic features of entomophilous flowers.



## PART - II ( BIO-ZOOLOGY) (Max. Marks: 35)

## SECTION - I

Note: (i) Answer all the questions [akwaacademy.blogspot.com](http://akwaacademy.blogspot.com)  
 (ii) Choose the most appropriate answer from the given four Alternatives and write the option code and the corresponding answer 8x1=8

- Identify the correct statements from the following.
  - Chlamydia is a viral disease
  - Gonorrhoea is caused by a spirochaete bacterium, treponema palladium.
  - The incubation period for syphilis is 2 to 14 days in males & 7 to 21 days in females.
  - Both syphilis & gonorrhoea are easily cured with antibiotics.
- ZW-ZZ system of sex determination occurs in
  - fishes
  - Reptiles
  - Birds
  - All of these
- The wings of birds & butterflies is an example of
  - Adaptive radiation
  - Convergent evolution
  - Divergent evolution
  - Variation
- Which of the following pair is correctly matched for the product produced by them?
  - Acetobacter aceti - Antibiotics
  - Methanobacterium - Lactic acid
  - Penicillium notatum - Acetic acid
  - Saccharomyces cerevisiae - ethanol
- Assertion:** The environmental conditions of the tropics are favourable for speciation & diversity of organisms.  
**Reason :** The climate seasons, temperature, humidity & photoperiod are more or less stable & congenial.
  - Both assertion & reason are true & reason explains assertion correctly
  - Both assertion & reason are true but reason is not the correct explanation of assertion
  - Assertion is true, but reason is false
  - Both assertion & reason are false.
- Match & select the correct option.**

Column I	Column II		A	B	C
A) Proliferative phase	- 1) Breakdown of endometrium lining	a)	3	2	1
B) Secretory phase	- 2) Follicular phase	b)	2	3	1
C) Menstruation	- 3) Luteal phase	c)	1	3	2
		d)	3	1	2
- Reverse transcriptase is
  - RNA dependent RNA polymerase
  - DNA dependent RNA polymerase
  - DNA dependent DNA polymerase
  - RNA dependent DNA polymerase
- Measuring Biochemical oxygen demand (BOD) is a method used for
  - Estimating the amount of organic matter in sewage water
  - Working out the efficiency of oil driven automobile engines.
  - Measuring the activity of saccharomyces cerevisiae in producing curd on a commercial scales.
  - Working out the efficiency of RBCs about their capacity to carry oxygen.

## SECTION - II

II. Note : Answer any FOUR of the following in one or two sentences. 4x2=8

- Define plasmotomy.
- Write the symptoms of Down's syndrome.
- What is meant by Red databook?
- What is inhibin?
- State Allen's rule.
- What is meant by biomagnification?

## SECTION - III

III. Note : Answer any three of the following questions.

Question Number 19 is compulsory.

3x3=9

- "Ecosan is a sustainable system for handling human excreta" - Discuss.
- Explain the structure of HIV.
- Write any three salient features of genetic code.
- Write note on Huntington's chorea.
- Explain the three phases of life cycle.

## SECTION - IV

IV. Note : Answer all the questions in detail.

2x5=10

- (a) Describe the process of spermatogenesis. (OR)  
 (b) Explain the roles of mRNA, rRNA and tRNA in protein synthesis.
- (a) Write the role innate immunity in prevention of diseases. (OR)  
 (b) Which is called as industrial alcohol? Briefly explain its preparation.