



**Sivagangai**

**District**

Reg. No.:

--	--	--	--	--	--

**COMMON QUARTERLY EXAMINATION - 2023**

**Std - XII**

**BIOLOGY**

Time : 3.00 Hours

Marks: 70

**Part - I (Biology-Botany)**

I. Choose the correct answer:

8 x 1 = 8

- Horse shoe shaped nucellus is seen in .....  
a) Amphitropous      b) Circinotropous      c) Campylotropous      d) Anotropous
  - Embryo sac is ..... called with ..... nuclei.  
a) 7,7      b) 7,8      c) 8, 8      d) 8,7
  - Incomplete dominance is first identified in ..... plant.  
a) wheat      b) summer squash      c) snapdragon      d) mirabilis jalapa
  - ..... received nobel prize for his discoveries concerning the role played by chromosomes in heredity.  
a) Morgan      b) Sutton      c) Boveri      d) Wilhelm Roux
  - Biolistics method is a kind of .....  
a) screening for recombinants      b) replica plating technique  
c) direct gene transfer      d) indirect gene transfer
  - Choose the correct pair  
a) exonuclease - add or remove phosphate  
b) endonuclease - cut the DNA at terminus  
c) alkaline phosphatase - cut the DNA at middle  
d) ligase - binding the DNA fragments
  - Solidifying agent used in plant tissue culture is .....  
a) EDTA      b) Agar      c) Nicotinic acid      d) Cobaltous chloride
  - The further differentiation of already differentiated cell into another type of cell is known as .....  
a) totipotency      b) differentiation      c) redifferentiation      d) dedifferentiation
- II. Answer any four of the following:

4 x 2 = 8

- Identify the explain the above conventional method.
- Differentiate between continuous and discontinuous variation.
- Name the types of ploidy a)  $2n+1+1$  b)  $2n+3$  c)  $2n-1$  d)  $2n-2$
- Write the advantages of herbicide tolerant crops.
- What is cybrid?
- Define cryopreservation.



III. Answer any three of the following. Q.No. 18 is compulsory.

3 x 3 = 9

- Explain any two mechanisms that promote cross pollination.
- Define : i) back cross ii) test cross iii) reciprocal cross
- Differentiate between southern and northern blotting
- Write any three applications of plant tissue culture.
- What is co-mutagen? Give an example.

IV. Answer the following:

2 x 5 = 10

- a) What is endosperm? Explain its types. (OR)  
b) Write about the cytoplasmic inheritance with example.
- a) Explain the mechanism of crossing over with diagram. (OR)  
b) Describe the steps involved in rDNA technology.

Part-II (Biology Zoology)

XII-BIO

I. Choose the correct answer:

8 x 1 = 8

1. In which type of parthenogenesis egg may develop into individuals of any sex.  
a) Arrhenotoky      b) Thelytoky      c) Amphitoky      d) Both a and b
  2. The Androgen binding protein is produced by  
a) Leydig cells      b) Hypothalamus      c) Sertoli cells      d) Pituitary gland
  3. Match column I with column II and select the correct option from the codes given below.  
Column I  
A) Syphilis  
B) Lymphogranuloma venereum  
C) Genital warts  
D) Sex hormones  
Column II  
i) Chlamydia trachomatis  
ii) Adolf Butenandt  
iii) Treponema pallidum  
iv) Human papilloma virus
- |    | A   | B  | C  | D   |
|----|-----|----|----|-----|
| a) | iii | ii | i  | iv  |
| b) | iii | i  | ii | iv  |
| c) | iii | i  | iv | ii  |
| d) | iv  | i  | ii | iii |
4. Which of the following is incorrect regarding ZW - ZZ type of sex determination?  
a) it occurs in gypsy moth      b) it occurs in birds and some reptiles  
c) Females are homogametic and males are heterogametic  
d) Male produce two types of gametes
  5. Hershey and Chase experiment with bacteriophage showed that  
a) Protein gets into the bacterial cells  
b) DNA alone carries the hereditary information from virus to bacteria  
c) RNA alone carries the hereditary information from virus to bacteria  
d) DNA and RNA carry the hereditary information from virus to bacteria
  6. According to Darwin, the organic evolution is due to  
a) Intraspecific competition      b) Interspecific competition  
c) Competition within closely related species  
d) Reduced feeding efficiency in one species due to the presence of interfering species.
  7. These are the substance that are non-immunogenic but can react with the products of a specific immune response  
a) Adjuvants      b) Haptens      c) Epitope      d) Paratope
  8. Fumaric acid is produced from the microbes  
a) Aspergillus niger      b) Acetobacter aceti      c) Rhizopus oryzae  
d) Clostridium butyricum

II. Answer any four questions from the following.

4 x 2 = 8

9. What is plasmotomy?
10. What is called Mayer-Rokitansky syndrome.
11. What is known as Kin Selection?
12. Define the term genophore.
13. List out the major gases seems to be found in the primitive earth.
14. What is Korsakoff syndrome?

III. Answer any three questions from the following.

3 x 3 = 9

15. How can you differentiate syngamy and conjugation.
16. What is known as Menopause?
17. Write any three applications of karyotyping.
18. If the population is in the state of Hardy Weinberg equilibrium, there is no evolution. why?
19. Define the following terms a) Bioremediation      b) Zymology

IV. Answer the following any one:

2 x 5 = 10

20. Give an account on the salient features of Human Genome project. (OR)  
Could you suggest what type of Assisted Reproductive Technology is adopted for the woman with blocked, damaged, or absent fallopian tube.
21. Mention the main objections to Darwinism. (OR)  
Explain the structure of immunoglobulin with suitable diagram.