

Tsi12Bio

Tenkasi District  
Common Half Yearly Examination - 2023



08-01-2024.

Time: 3.00 Hours

Standard 12

BIOLOGY

Bio-Botany

Part - I

Marks: 70

Marks: 35

8x1=8

**I. Choose the best answer.**

- 1) The first cell of male gametophyte in angiosperm  
a) Nucleus                      b) Microspore                      c) PEN                      d) Megaspore
- 2) The Dominant episfasis ratio is  
a) 9 : 3 : 4                      b) 9 : 3 : 3 : 1                      c) 9 : 6 : 1                      d) 12 : 3 : 1
- 3) The bacteria responsible for causing crown gall  
a) Escherichio coli                      b) Bacillus subtilis  
c) Bacillus thuringiensis                      d) Agrobacterium tumifaciens
- 4) Solidifying agent used in plant tissue culture is  
a) EDTA                      b) Nicotine acid  
c) Agar                      d) Cobaltous chloride
- 5) Which atmospheric gas depletion can lead to an increased incidence of skin cancer  
a) Nitrous oxide                      b) Ammonia                      c) Ozone                      d) methane
- 6) Cardomom belongs to the family  
a) Solanaceae                      b) Piperaceae                      c) Fabaceae                      d) Zingiberaceae
- 7) Match column I (crop) with column II (corresponding disease resistant variety) and select the correct option from the give codes

**Column I****Column II**

- |              |                     |
|--------------|---------------------|
| I) Cowpea    | i) Himgiri          |
| II) Wheat    | ii) Pusa Komal      |
| III) Chilli  | iii) Pusa Sadabahar |
| IV) Brassica | iv) Pusa Swarnim    |

- |    |          |           |            |           |
|----|----------|-----------|------------|-----------|
|    | <b>I</b> | <b>II</b> | <b>III</b> | <b>IV</b> |
| a) | iv       | iii       | ii         | i         |
| b) | ii       | i         | iii        | iv        |
| c) | ii       | iv        | i          | iii       |
| d) | i        | iii       | iv         | ii        |

- 8) The ideal soil for cultivation is  
a) clayey soil                      b) Loamy soil                      c) Sandy soil                      d) Silt soil

**Part - II****II. Answer any 4 of the following questions.**

4x2=8

- 9) What is stomium?
- 10) Give the names of the scientists who rediscored Mendelism
- 11) Draw the structure of pBR 322
- 12) Differentiate primary introduction from secondary introduction
- 13) What is food chain
- 14) Write the uses of Teak wood

**Part - III****III. Answer any 3 of the following questions. Q.No. 19 is compulsory. 3x3=9**

- 15) Draw the label the embryo sae.
- 16) List any three significance of ploidy
- 17) What is carbon capture and storage
- 18) What are the materials used to grow micro - organisms like spirulina
- 19) Distinguish habitat and niche

**Part - IV****IV. Answer all the questions**

2x5=10

- 20) a) Explain the incomplete dominance with example.  
(OR)  
b) Write the applications of plant tissue culture.
- 21) a) Non-liquid wastes cause health problems. Give a solution to manage the same.  
(OR)  
b) What are the king and Queen of spices? Write their uses.

Tsi12Bio

2

Bio-Zoology

Marks: 35

8x1=8

**I. Choose the correct answer.**

- 1) The male sex hormone testosterone is secreted from
  - a) Sertoli cells
  - b) Leydig cells
  - c) Epididymis
  - d) Prostate gland
- 2) The gene PAH (Phenylalanine hydroxylase gene) is located on chromosome .....
  - a) Chromosome 16
  - b) Chromosome 21
  - c) Chromosome 18
  - d) Chromosome 12
- 3) Meselson and Stahl's experiment proved
  - a) Transduction
  - b) Transformation
  - c) DNA is the genetic material
  - d) Semi - conservative nature of DNA replication
- 4) Darwin's finches are an excellent example of
  - a) Connecting links
  - b) Seasonal migration
  - c) adaptive radiation
  - d) Parasitism
- 5) Substances that are non-immunogenic but can react with the products of a specific immune response are .....
  - a) Antigens
  - b) Immunogens
  - c) Haptens
  - d) Adjuvants
- 6) Dolly, the sheep was obtained by a technique known as .....
  - a) Cloning by gene transfer
  - b) Cloning without the help of gametes
  - c) Cloning by tissue culture of somatic cells
  - d) Cloning by nuclear transfer
- 7) Animals that can move from fresh water to sea called as .....
  - a) stenothermal
  - b) Eurythermal
  - c) Catadromous
  - d) Anadromous
- 8) The highest DDT concentration in aquatic food chain shall occur in
  - a) Seagull
  - b) Crab
  - c) Cell
  - d) Phytoplankton

**II. Answer any four of the following.**

4x2=8

- 9) What are conjugants?
- 10) What is Criss - Cross inheritance?
- 11) What is ribozyme?
- 12) What are vestigial organs?
- 13) What is biological oxygen demand?
- 14) What is Entrophication?

**III. Answer any three of the followings. (Q.No. 18 is compulsory)**

3x3=9

- 15) What is nebenken? Mention its function.
- 16) Write the symptoms of Down's Syndrome
- 17) What is an antigen? What are the types?
- 18) What is birth rate and death rate?
- 19) What are the effects of airpollution?

**IV. Answer in detail.**

2x5=10

- 20) Explain the phases of life cycle.

**(OR)**

Explain the structure of human sperm with a diagram.

- 21) What are the salient features of human genome project.

**(OR)**

Explain the types of Recombinant Vaccines.

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