

V12Bio

Virudhunagar District
Common Half Yearly Examination - 2023



**Standard 12
BIOLOGY**

Time: 3.00 Hours

**PART - I (Bio-Botany)
Section- I**

Marks: 70

Marks: 35

Answer all the questions:**8x1=8**

- 1) The ovules or megasporangia arise from
a) funicle b) nucellus c) hilum d) the placenta
- 2) Select the period for Mendel's hybridization experiments
a) 1856-1863 b) 1850-1870 c) 1857-1869 d) 1870-1877
- 3) If haploid number in a cell is 23, the double monosomic and pentasomy number will be
a) 44, 49 b) 17, 37 c) 47, 46 d) 45, 48
- 4) Match the following

Column A**Column B**

- | | |
|-------------------------|------------------------------|
| 1) Exonuclease | a) add or remove phosphate |
| 2) Endonuclease | b) binding the DNA fragments |
| 3) Alkaline Phosphatase | c) Cut the DNA at terminus |
| 4) Ligase | d) Cut the DNA at middle |

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

- 5) **Assertion (A) :** The explants are sterilized by Mercury chloride
Reason (R) : Sterilization prevents the growth of other microorganisms in the culture medium
a) (A) correct; (R) wrong b) (A) wrong; (R) correct
c) Both (A) and (R) correct, but (R) is not the explanation to (A)
d) Both (A) and (R) correct, (R) is the explanation of (A)
- 6) Which of the following are not regulating services of ecosystem services?
i) genetic resources ii) recreation and a esthetic values
iii) invasion resistance iv) climatic regulation
a) i and iii b) ii and iv c) i and ii d) i and iv
- 7) Which of the following is incorrectly paired
a) Wheat - Himgiri
b) Milch breed - Sahiwal
c) Rice - Ratna
d) Pusa Komal - Brassica
- 8) Choose the correctly matched pair
a) Turmeric - Queen of spices b) Cardamon - Erode
c) Rubber - Kerala d) Banana - National fruit of India

Section- II**Answer any four of the following.****4x2=8**

- 9) What is double fertilization and triple fusion?
- 10) What is back cross?
- 11) Name the chemicals used in gene transfer.
- 12) What is ecological hierarchy?
- 13) Write 10 percent law
- 14) What is organic agriculture?

Section- III**Answer any three of the following.****3x3=9**

- 15) Which is called as the "King of bitters"? Mention their medical importance.
- 16) Define : Heterosis.
- 17) What is greenhouse effect? Draw the relative contribution of greenhouse gases.
- 18) What is gene mapping? Write its uses
- 19) Draw the label the structure of embryo sac

Section- 4**Answer all the questions****2x5=10**

- 20) a) What are the kind and queen of spices? Explain their uses (OR)
b) What is hybridization? Explain its steps
- 21) a) Compare the various types of blotting techniques (OR)
b) What is tapetum? Write its types and functions.

Kindly send me your answer keys to us - padasalai.net@gmail.com

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PART - I (Bio-Zoology)

Marks: 35

Section- 1**Answer all the questions:****8x1=8**

- 1) Match Column I with Column II and select the correct option using the code given below.

Column I

- A) Monspubis
B) Antrum
C) Trophoctoderm
D) Nebenken

Column II

1. Embryo formation
2. Sperm
3. Female External genitalia
4. Graffian follicle

	A	B	C	D
a)	3	4	2	1
b)	3	4	1	2
c)	3	1	4	2
d)	1	4	3	2

- 2) The species confined to a particular region and not found elsewhere is termed as
a) Alien b) Endemic c) Rore d) Keystone
- 3) During sewage treatment biogas are produced which includes
a) Methane, hydrogensulphide, Carbondioxide
b) Methane, Oxygen, hydrogensulphide
c) Hydrogen sulphide, Methane, Sulphurdioxide
d) Hydrogensulphide, Nitrogen, Methane
- 4) In which types of Parthenogenesis are only male Produced
a) Arrhenotoly b) Thelytoky c) Amphytoky d) both a and b
- 5) Name the virus could become a surgical weapon against brain cancer
a) zika virus b) HIV c) Coronavirus d) Denguivirus
- 6) Hershey and Chase experiment with bacteriophage showed that
a) Protein gets in to the bacterial cells b) DNA is the genetic mateiral
c) DNA contains radioactive sulphur d) Viruses undergo transformation
- 7) A pleiotropic gene
a) Is a gene evolved during pliocene
b) Controls a trait only in Combination with another gene
c) Controls multiple traits in an Individual
d) Is expressed only in Primitive plants
- 8) The first clinical gene therapy was done for the treatment of
a) AIDS b) cancer c) cystic fibrosis d) SCID

Section- 2**Answer any four questions:****4x2=8**

- 9) Write any two difference between Convergent and divergent evolution?
10) What is plasmatomy? Give an example.
11) Write short notes on Goldberg-Hogness box.
12) Write about the important and Potential application of Human stem cell?
13) Write a note - Algal Bloom
14) Your friend is saying to you. Exercise is the best remedy for mental depression? Do you agree that? During exercise two chemicals are secreted by your body write that name.

Section- 3**Answer any three questions: (Q. No. 19 is compulsory)****3x3=9**

- 15) What is Bergmann's rule?
16) Write short notes on Brewer's Yeast
17) Write about the casuative agent of gonnorrhoea symptoms and Incubation period of the disease?
18) Write a note about what is the name of the method used to find the identify of a murdered person using his DNA?
19) Name and explain the palentological evidance of dict of the Prehistorical animals.

Section- 3**Answer all the questions:****2x5=10**

- 20) Fertilisation not possible in human being, write the name of the cyclic changes occur in endometrium? Give an brief notes on that phases with diagram? **(OR)**
Give an account of lac operon?
21) Explain the Rivet popper hypothesis? **(OR)**
Draw the diagram and explain the structure Immunoglobulin?