

**VIVEKANANDA VIDHYASHRAM MATRIC HR. SEC SCHOOL
VANNARPETTAI, TIRUNELVELI**

Pre-Half Yearly 2024-2025

CLASS: 12 STD

BIOLOGY

TOTAL MARKS: 100

PART-1 BIO-BOTANY

(MARKS-50)

SECTION-I

CHOOSE THE BEST ANSWER:

10X1=10

1. Which of the following represent megagametophyte
a) Ovule b) Embryo sac c) Nucellus d) Endosperm
2. An allohexaploidy contains
a) Six different genomes b) Six copies of three different genomes
c) Two copies of three different genomes d) Six copies of one genome
3. Restriction enzymes are
a. Not always required in genetic engineering b. Essential tools in genetic engineering
c. Nucleases that cleave DNA at specific sites d. both b and c
4. Deforestation does not lead to
a) Quick nutrient cycling b) soil erosion
c) alternation of local weather conditions d) Destruction of natural habitat weather conditions
5. The active principle trans-tetra hydro cannabinol is present in
a) *Opium* b) *Curcuma* c) *Marijuana* d) *Andrographis*
6. Cleavage polyembryony is noticed in
(a) *Orchids* (b) *Casuarina* (c) *Balanophora* (d) *Syzygium*
7. At which stage of meiosis, does the chromosomes undergo recombination process?
(a) Leptotene stage of prophase I (b) Zygotene stage of prophase I
(c) Diplotene stage of prophase I (d) Pachytene stage of prophase I
8. Tetracycline is obtained from
(a) *S.nodosus* (b) *S.aureofacins* (c) *S.grises* (d) *P. chryosogenum*
9. How many numbers of sacred grooves were documented in tamil nadu?
(a) 484 (b) 844 (c) 488 (d) 448
10. Identify the mismatched pair:
(a) Holy basil – *Ocimum sanctum* (b) Indian gooseberry – *Phyllanthus amarus*
(c) Vilvam – *Aegle marmelos* (d) Veldt grape – *Cissus quadrangularis*

SECTION-II

ANSWER ANY FIVE FROM FOLLOWING QUESTIONS

5X2=10

11. Give the types of synapsis
12. Draw the structure of male gamete microspore
13. Name the enzymes which are used in Biotechnology?
14. Define “ Carbon Sink”
15. A person got irritation while applying chemical dye. What would be your suggestion for alternative?
16. Name the humors that are responsible for the health of human beings.

SECTION-III

ANSWER ANY FIVE FROM FOLLOWING QUESTIONS

5X3=15

Q NO 21 COMPULSARY

17. Write a note on entry of pollen tube into the ovule.
18. What is gene mapping? Write its uses
19. What is bioremediation? give some examples of bioremediation
20. What are Plant indicators? Give examples
21. Write a note on palmyra tree.
22. Which is called as the “King of Bitters”? Mention their medicinal importance.

SECTION-IV**ANSWER ALL THE QUESTIONS****3X5=10**

23. What is anemophily and write its characteristic features. (OR)
How sex is determined in monoecious plants. write their genes involved in it.
24. What is Single cell protein? Write its Applications? (OR)
List out Benefits of agroforestry
25. What are millets? What are its types? Give example for each type. (OR)
What are the King and Queen of spices? Explain about them and their uses.

PART-II BIO ZOOLOGY**(MARKS-50)****SECTION-I****CHOOSE THE BEST ANSWER :****10X1=10**

1. The male sex hormone testosterone is secreted from
a. Sertoli cells b. Leydig cell c. Epididymis d. Prostate gland
2. Which of the following is the correct sequence of event with reference to the central dogma?
(a) Transcription, Translation, Replication (b) Transcription, Replication, Translation
(c) Duplication, Translation, Transcription (d) Replication, Transcription, Translation
3. Vaccines that use components of a pathogenic organism rather than the whole organism are called
a) Subunit recombinant vaccines b) attenuated recombinant vaccines
c) DNA vaccines d) conventional vaccines
4. Competition between species leads to
a) Extinction b) Mutation c) Amensalism d) Symbiosis
5. The entire process of spermatogenesis takes about days
(a) 60 days (b) 44 days (c) 64 days (d) 50 days
6. Number of genes located in chromosome Y is
(a) 2968 (b) 213 (c) 2869 (d) 231
7. Repressor protein of Lac operon binds toof operon
(a) Promoter region (b) Operator region (c) terminator region (d) inducer region
8. Which is the first synthetic vaccine produced?
(a) Polio Vaccine (b) Hepatitis B Vaccine (c) BCG Vaccine (d) MMR Vaccine
9. PCR technique was developed by
(a) Eva Engvall (b) Peter Perlmanin (c) Kary Mullis (d) Wilmut
10. Pick out the eurythermal organism
(a) Fish (b) Frog (c) Tiger (d) Lizards

SECTION-II

ANSWER ANY FIVE FROM FOLLOWING QUESTIONS

5X2=10

11. What are the three layers of uterine wall?
12. What are operons?
13. What is genetic code?
14. Define Oligopotency with example
15. What is population density
16. Define Allen's rule

SECTION-III

ANSWER ANY FIVE FROM FOLLOWING QUESTIONS

5X3=15

Q NO 22 COMPULSARY

17. What is Ectopic pregnancy?
18. Methodologies of Human Genome Project
19. Explain how "Rosie" is different from a normal cow
20. By which event PCR help in RNA Replication? Write in brief about the chemical reaction of that process?
21. What is pedogenesis? Mention any two of its functions
22. Differentiate between Eurytherms and Stenotherms

SECTION-IV

ANSWER ALL THE QUESTIONS

3X5=15

23. Explain the process of fertilization and implantation of the fertilized ovum (OR)
Explain the classical model of lac operon proposed by Jacob and Monod
24. Write down the salient features of Human genome project (OR)
Explain how recombinant Insulin can be produced.
25. Write a various difference between r-selected and k-selected species (OR)
Give an account of population regulation