

MODEL EXAM KANCHIPURAM DISTRICT  
NOVEMBER – DECEMBER SYLLABUS 2021-22

CLASS : XII  
SUBJECT: BIOLOGY

MARKS : 70  
TIME : 3.00 HOURS

BIO-BOTANY  
SECTION – I

Answer all questions

8x1 = 8

I)

1. Arrange the layers of antherwall from locus to periphery
  - a. Epidermis, Middle layers, tapetum. Endothecium
  - b. Tapetum, Middle layers, epidermis, endothecium
  - c. Endothecium, epidermis, middle layers , tapetum
  - d. Tapetum, Epidermis, endothecium, middle layers, tapetum.
2. Parthenocarpic fruits lack
  - a. Endocarp b. Epicarp c. Mesocarp d. Seed
3. Match the following and choose the correct option
  - 1.Phalanophily - (i) Bats
  - 2.Malacophily \_ (ii) Ants
  - 3.Chieropterophily – (iii) Snail
  - 4.Myrmecophily - (iv) Moth

Options

  - a)1-iv , 2-i, 3-ii, 4-iii
  - b) 1-I , 2-iii, 3-ii, 4-iv
  - c) 1-iv, 2-iii 3-I 4-ii
  - d) 1-iii, 2-iv , 3- I, 4-ii
4. Test cross involves
  - a) crossing between two genotypes with recessive trait.
  - b) crossing between two F1 hybrids
  - c) crossing F1 hybrids with a double recessive genotype
  - d) crossing between two genotypes with dominant strain.
5. Phenotypic ratio of complementary genes
  - a) 9:7 b) 9:3:4 c) 9:6:1 d) 12:3:1
6. Coupling ratio is -----
  - a)1:7:7:1 b)7:1:1:7 c) 9:3:3:1 d) 1:1:1:1
7. A single gene affects multiple traits and alter the phenotype of an organism. This phenomenon is known as
  - a) Intragenic interaction b) Multiple Alleles c) Intergenic interaction d) Pleiotropy
8. If haploid number in a cell is 20, the double monosomic and trisomic number will be
  - a) 18 and 21 b) 36 and 39 c) 38 and 41 d) 19 and 21

SECTION – II

ANSWER ANY FOUR QUESTIONS:

4x2=8

9. What is endothelium?

10. Enumerate the characteristic features of anemophilous flowers.

11. What are lethal alleles?
12. Distinguish between Linkage and crossing over.
13. Write any two significances of Ploidy.
14. Differentiate continuous variation with discontinuous variation.

## SECTION –III

Answer any three of the following questions , question number 19 is compulsory 3x3 = 9

15. List out the functions of Tapetum.
16. Write any three significances of parthenocarphy.
17. Differentiate incomplete dominance and dominance.
18. What are the uses of genetic mapping?
19. Draw diagrams for types of aneuploidy.

## SECTION –D

Answer the following questions 2x5 = 10

20. (i) With a suitable diagram explain the structure of an ovule.  
(or)
- (ii) Explain any five types of ovules with suitable diagrams.
21. (i) Explain incomplete dominance seen in *Mirabilis jalapa*.  
(or)
- (ii) Explain the mechanism of crossing over.

## BIO- ZOOLOGY

## SECTION – I

Answer all questions 8x1 = 8

1. The fusion of Morphologically and Physiologically identical gametes is called  
a. Paedogamy b. Isogamy c) Anisogamy d) Hologamy
2. ----- is the period of growth between birth of the individual upto reproductive maturity  
a) Juvenile phase b) Vegetative phase c) Both A and B d) Maturity phase
3. The foetal membrane that forms the basis of the umbilical cord is -----  
a) Amnion b) chorion c) yolk sac d) Allantois
4. Epithelium of Gastrointestinal and respiratory tract, Liver, Pancreas, Thyroid and Para Thyroid are derived from a) Endoderm b) Ectoderm c) Mesoderm d) None of the above.
5. Which one of the following is copper releasing IUD  
a) Saheli b) Multiload375 c) LNG 20 d) Lipper hoop
6. Transfer of an ovum collected from a donor into the fallopian tube is known as  
a) ZIFT b) GIFT c) ICSI d) TESE
7. Codominant blood group is  
a) O b) A c) B d) AB
8. Rh factor was discovered by -----  
a) Von De Castelle and Sturli b) Fisher and Race c) Karl Landsteiner and Alexander Coiener  
d) Bernstein.

## SECTION – II

Answer any four of the following

4x2= 8

9. What is hologamy?
10. How is polyspermy avoided in humans?
11. What is ectopic pregnancy ?
12. Expand “POCSO”.
13. Distinguish between Infanticide and feticide.
14. What are holandric genes?

## SECTION – III

Answer any three of the following. Q.No: 19 is Compulsory

3x3 = 9

15. What are the three phase of life in organisms?
16. What is the composition of Semen.
17. What is amniocentesis? Why a statutory ban is imposed on this technique.
18. What are the applications of Karyotyping (any three)
19. What are the Chromosomes present in C and G group of human female’s Karyo typing.

## SECTION – IV

2x5 = 10

Answer the following:

20. What is Parthenogenesis?

Explain the types of Parthenogenesis? (or)

Describe the structure of a spermatozoa with neat labeled diagram.

21. Explain the inheritance of colour blindness for marriage between colourblind man and normalvisioned woman. (or)

Explain any two Assisted reproductive technologies in detail.