

SETHU BHASKARA MAT. HR. SEC. SCHOOL

12th
STD

QUARTERLY EXAMINATION

- 30.09.22
MARKS - 35

BIO-BOTANY - ANSWER KEY

I. Choose the Correct Answer:- $8 \times 8 = 8$

		Marks
1.	c) B	1m
2.	a) mitochondria and chloroplast	1m
3.	a) Mirabilis	1m
4.	c) 3 and 4	1m
5.	d) (1) (2) (3) (4) c d a b	1m
6.	b) Capacity to generate a whole plant from any plant part/explant	1m
7.	b+c A is correct, R is not correct explanation of A A is correct, R is wrong explanation of A	1m
8.	b) polyembryony	1m

II. Answer any four of the following:-

$4 \times 2 = 8$

9. Lethal Genes:- An allele which has the potential to cause the death of an organism is called a "lethal Genes".
eg Antirrhinum. (Snapdragon) - 2m.

10) SUB-AERIAL MODIFICATION - Any two - 2marks
 a) Runner - Centella c) Offset - Pistia
 b) Stolon - Fragaria d) Sucker - Chrysanthemum

- 11) Genotype :- The term genotype is the genetic constitution of an individual. - 2marks
- 12) Genetic Mapping :- The diagrammatic representation of position of genes and related distances the adjacent genes is called genetic mapping - 2m
13. Tools used for genetic engineering.
- Restriction endonucleases
 - Vectors / Plasmids
 - DNA ligases
 - Alkaline phosphatases
- 2marks
- 14) Explant :- The tissue taken from a selected plant transferred to a culture medium often to establish a new plant. - 2marks.

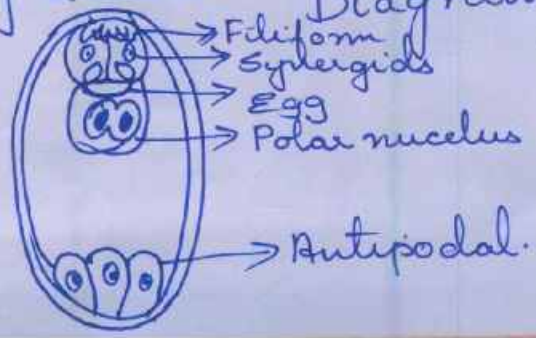
III Answer any three questions in short
(Q. no 19 is compulsory) $3 \times 3 = 9$

15. Pollination by Bees - mellitophily - 2m.
Example. Asteraceae / Poinsettia / Bougainvillea or
(any related example) - 1marks
16. Functions of Tapetum - 3 points - 3marks
- * Supplies nutrition to the developing microspores
 - * Sporopollenin - Ubisch bodies - Pollen wall formation
 - * Pollen kit - Tapetal cells - Pollen surface.
 - * Exine proteins - rejection reaction - on stigma

- 17) Mendel's Success :- Any three points - 3 marks
- * Applied mathematics and statistical methods to biology and laws of probability
 - * Scientific methods, accurate and detailed records. - quantitative data.
 - * Carefully planned experiments.
 - * Pair of contrasting characters which controlled by factors (genes)
 - * Pure breed lines & the purity - self crossing.

- 18) Significance of Ploidy - 3 points - 3 marks
- * More vigorous & adaptable
 - * Autotetraploids - larger flowers + longer flowering.
 - * Autopolyploids - higher fresh weight
 - * Aneuploids - phenotypic effects - loss or gain different chromosomes
 - * Allopolyploids - evolution of plants.

19) Compulsory Question Diagram - 2m
Parts - 1m.



IV Answer the following in a detailed 2x5=10

20) a) Recombinant DNA Technology.

Steps - 4m Diagram - 1m.

b) Basic Concepts - Plant Tissue Culture:

Totipotency
Differentiation
Dedifferentiation
Redifferentiation } 4m diagram - 1m.

21) a) Dihybrid cross:-

Definition - 1m


Explanation flowchart } 3m
of Cross.

Ratio :- 9:3:3:1 - 1m.

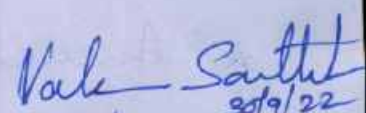
b) Structure of Ovule

Explanation - 3m Diagram :- 2m

SUBJECT HANDLING TEACHER


1) MR. S. ROBERT

S. S. MATHAN
2) MRS. M. MATHAN


3) MRS. VARAREENA
30/9/22

SETHU BHASKARA MATRIC HR SEC SCHOOL.

COMMON QUARTERLY EXAMINATION - 2022

BIO - ZOOLOGY

Answer - Key

Class: XII

Part - II

I Answer all the questions:

(8 × 1 = 8)

1. Planaria - A.
2. - Iga.
3. Multiload - C
4. $I^A I^O$ and $I^B I^O$ - D.
5. Jacob and Monod - A
6. Mesozoic Era - B.
7. Liver - A.
8. Penicillin - D.

Part - II

II Answer any 4 questions:

(4 × 2 = 8)

9. a) Follicle Stimulating Hormone.
- b) Luteinizing hormone.
- c) human Chorionic Gonadotrophin.
- d) human Placental Lactogen.

} 2 Mark.

10, (i) User friendly, (ii) easily available,
 (iii) With least side effect, (iv) should not interfere with Sexual drive. } 2 mark

11, (i) In this system the sex the offspring is determined by the number of sets of chromosome it receives. Fertilized egg developed into females and unfertilized egg developed into males (chromes) by Parthenogenesis. } 2 mark

12, UUA, GUA, AUA, GUU } 2 mark

13, (i) The evolutionary Process which produces new species diverged from a single ancestral form becomes adapted to newly invaded habitats. } 2 mark

14, (i) Toxin released by merozoites of Plasmodium.
 (ii) Shivering chills, high fever } 2 mark

Part - III

Answer any three questions ∴ Q.No: 19 Compulsory. (3x3=9)

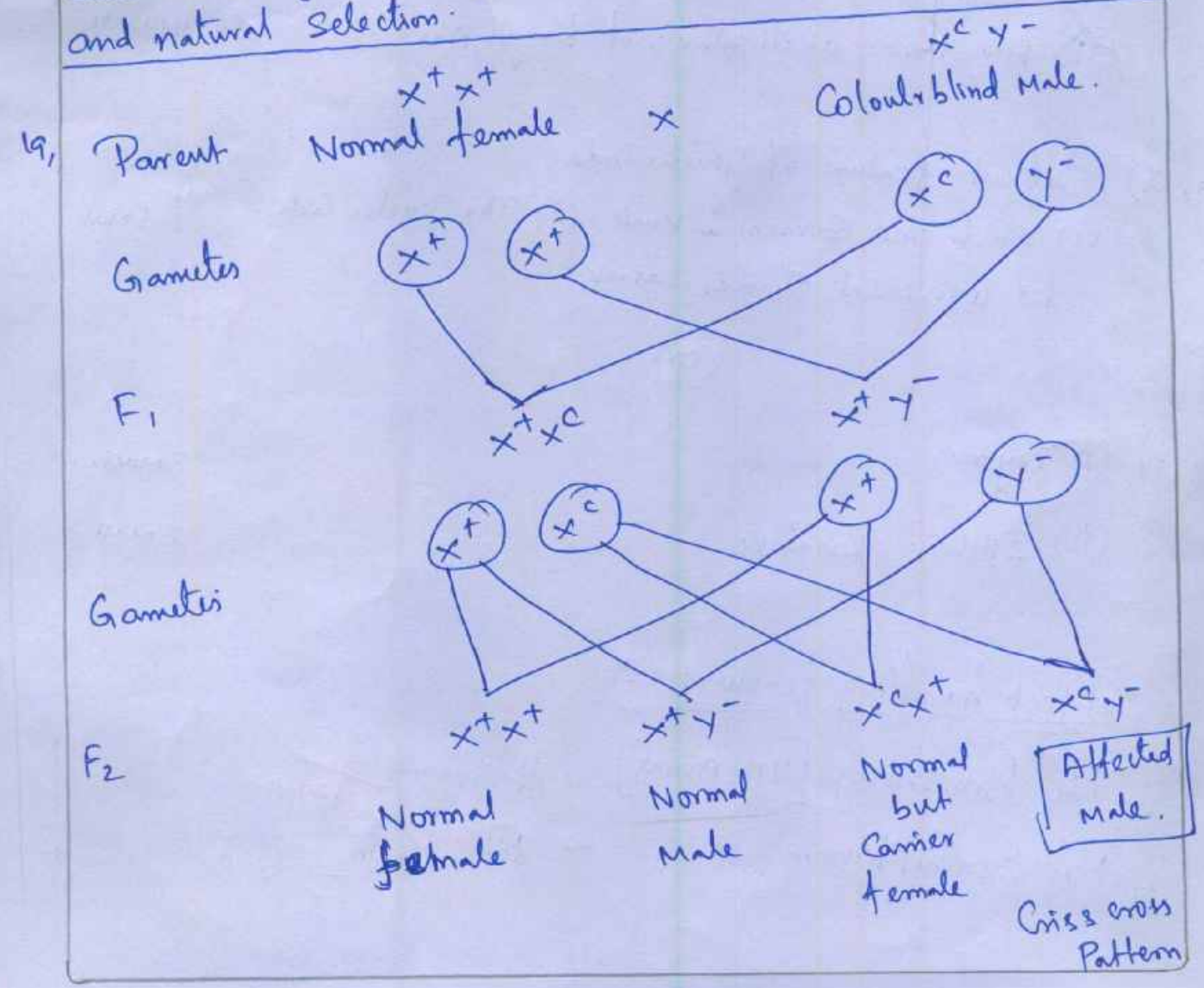
15, (i) Temperature - inhibit growth of Pathogen. } 1 mark
 (ii) Low PH - Kills ingested microbes. } 1 mark
 (iii) Chemical mediator - Phagocytosis. } 1 mark

16,	Internal fertilization	External fertilization.
	(i) The fusion of male and female gametes take place within the body of female organism.	(i) The fusion of male and female gametes take place outside the body of female organism. (3m)
	(ii) reptiles, aves & mammals.	(ii) Sponges, fishes.

17, (i) Diagram
(ii) Labelling

1/2 man
1/2 man

18, (i) The allele frequencies in a population are stable and are constant from generation to generation in the absence of gene flow, genetic drift, mutation, recombination, and natural selection. } 3m.



Part - IV
Answer all the questions

(2 x 5 = 10)

- 20, a) (i) Menstrual Phase
 (ii) Follicular Phase.
 (iii) Ovulatory Phase.
 (iv) luteal Phase.
 (v) diagram

} 5 mark.

(or)

- b) (i) Definition.
 (ii) Any three applications of Karyotyping

2 mark
 3 mark.

- 21, a) Salient feature of genetic code.
 (i) Each one carries 1 mark. (ii) The genetic code
 is universal carries 2 mark.

} 5 mark

(or)

- b) (i) Thymus
 (ii) EPislope, Paratone

3 mark
 2 mark.

Subject handling teachers :-

1, Mr. Armstrong [HM Aving] - M. S. Smith 30/9/22

2, Mr. Senthil Kumar. - M.S. Smith

2 copies