Enrollment No: \_\_\_\_\_

Exam Seat No:\_\_\_\_\_

## **C. U. SHAH UNIVERSITY** Winter Examination-2021

## Subject Name : Discipline Specific Elective-I (Inheritance Biology)

Subject Code : 4SC05INB1		Branch: B.Sc. (Microbic	Branch: B.Sc. (Microbiology)	
Semester: 5	Date: 16/12/2021	Time: 11:00 To 02:00	Marks: 70	
Instructions:				
(1) Use of P	rogrammable calculator & an	y other electronic instrument is	prohibited.	

(1) Ose of Programmable calculator & any other electronic instrument.(2) Instructions written on main answer book are strictly to be obeyed.

- (3) Draw neat diagrams and figures (if necessary) at right places.
- (4) Assume suitable data if needed.

## Q-1 Attempt the following questions: (14)

a)	Define: Allele	(01)
b)	What is Recessiveness?	(01)
c)	Which plant was used by Mendel for the experiment?	(01)
<b>d</b> )	If one plant has pink color flower and genotype PP is responsible for	(01)
	pink color and yy for yellow color than enlist the possible genotype.	
e)	What is phenotypic ration of dihybrid cross.	(01)
f)	Define: Epistasis	(01)
<b>g</b> )	What is crossing over?	(01)
h)	What is gene mapping?	(01)
i)	At which stage of meosis cross over takes place?	(01)
<b>j</b> )	Describe the meaning of inheritance.	(01)
k)	Which chromosome is affected in turner syndrome?	(01)
l)	Define Centromere.	(01)
m)	What is Kappa particle?	(01)
n)	What is inversion?	(01)

## Attempt any four questions from Q-2 to Q-8

Q-2		Attempt all questions	(14)
	(a)	Write a detail note on the model organisms.	(07)
	<b>(b)</b>	Write detail on concept of dominance.	(07)

Q-3	Attempt all questions	(14)
(a)	Write a brief note on multiple allele	(07)
<b>(b)</b>	Write a detail note on the structure of chromosome.	(07)
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Q-4		Attempt all questions	(14)
	<b>(a)</b>	Write the detail on mitochondrial inheritance in <i>Saccharomyces cerevisiae</i> .	(07)
	<b>(b</b> )	Describe the Molecular mechanism of crossing over.	(07)
Q-5		Attempt all questions	(14)
C	(a)	Write a brief note on infectious heredity-Kappa particles in <i>Paramecium</i> .	(07)
	(b)	Write a detail note on linkages and recombination.	(07)
Q-6		Attempt all questions	(14)
-	(a)	Enlist the three laws of inheritance given by Mendel and explain law of segregation with one example of monohybrid cross.	(14)
Q-7			(14)
C		Write a detail on variation in chromosomal number and structural	
		abnormalities-Klinefelter syndrome, Turner syndrome, Down syndrome.	
Q-8		Attempt all questions	(14)
-	(a)	Give a detail note on transposition.	(07)
	<b>(b)</b>	Write a note on history of genetics.	(07)

