

P P SAVANI UNIVERSITY

Second Semester of B.Sc. (Hons.) Agriculture End Semester Examination
December - 2022

SGAG1120- Fundamentals of Genetics

19.12.2022, Monday

Time: 10:00 a.m. to 12:00 p.m.

Maximum Marks: 50

Instruction:

1. Draw a neat and labeled diagram whenever it is required.
2. Start new questions from new page.

Q.1 Multiple choice questions (01mark each)	(15)	CO	BTL
1.1 Which of the following is extra chromosome ?	1		1
a. A chromosome			
b. C chromosome			
c. E chromosome			
d. D chromosome			
1.2 Expression of one gene depends on the presence or absence of another gene in individual is known as which of the following ?	1		2
a. Gene interaction			
b. Gene therapy			
c. Gene fusion			
d. All of these			
1.3 Which of the following is monoecious ?	2		1
a. Maize			
b. Coconut			
c. Castor			
d. All of these			
1.4 Which of the following is autosome ?	2		2
a. X chromosome			
b. XY chromosome			
c. Y chromosome			
d. None			
1.5 Who called as father of genetics ?	2		1
a. Mrgan			
b. Mullies			
c. Mendel			
d. Martine			
1.6 Which of the following is type of monosomics ?	3		2
a. $2n-2$			
b. $2n-3$			
c. $2n-4$			
d. $2n-1$			
1.7 Sudden heritable change in character of an individual called as ?	2		2
a. Allele			
b. Mutation			
c. Dominance			
d. None			
1.8 Which of the following is correct order in cell division ?	1		2
a. A-G1-S-G2-P			
b. T-G1-S-G2-A			
c. T-G1-S-G2-M			
d. T-G1-S-G2-P			
1.9 Genotype M1m produce ____ in papaya ?	3		1
a. Male			
b. Female			
c. Bisexual			
d. None			

1.10	Chromosome clearly visible in which of the following stage ?	1	1
	a. Prophase		
	b. Anaphase		
	c. Metaphase		
	d. Telophase		
1.11	Loss of a segment of a chromosome known as _____	1	2
	a. Deletion		
	b. Duplication		
	c. Inversion		
	d. All of these		
1.12	Which of the following is dioecious ?	3	2
	a. Wheat		
	b. Papaya		
	c. Rice		
	d. Maize		
1.13	Which of the following is a monohybrid phenotypic ratio ?	4	4
	a. 3:1		
	b. 2:1		
	c. 1:1		
	d. 4:1		
1.14	Which of the following have a circular chromosome ?	1	1
	a. Prokaryotes		
	b. Mitochondria		
	c. Chloroplast		
	d. All of these		
1.15	Which of the following is haploid ?	3	2
	a. n		
	b. 2n		
	c. 4n		
	d. 3n		

Q.2	Define/ Explain (Attempt any six- 01 marks each)	(06)	
2.1	Allele	1	1
2.2	Gene	1	1
2.3	Genetics	1	1
2.4	Chromosome	1	1
2.5	Monosomics	3	1
2.6	Sex limited traits	2	1

Q.3	True/False (01 mark each)	(05)	
3.1	Chromosomes are present in lysosomes	1	1
3.2	Baldness in human is sex limited trait	2	2
3.3	Cucumber treated with ABA increase female flowers	3	1
3.4	Monocentric chromosome have one centromere	1	1
3.5	DNA synthesis occurred during S phase of cell cycle	1	2

Q.4	Short notes (Attempt any six- 02 marks each)	(12)	
4.1	Explain cell cycle with diagram	1	2
4.2	Describe significance of mitosis	1	2
4.3	Summarize XX - XY / Female - Male System	2	2
4.4	Discuss diploid haploid system	1	2
4.5	Explain different stages of first prophase	1	2
4.6	Describe giant chromosome	1	2
4.7	Summarize Raphanobrassica	3	2
4.8	Explain ABO blood group	2	2

Q.5	Answer the following questions in detail (Attempt any three- 04 marks each)	(12)	
5.1	Describe U triangle of brassica in detail	2	2
5.2	Explain mitotic cell division	1	2
5.3	Summarize environmental sex determination	2	2
5.4	Explain mendal laws in detail	4	2
5.5	Discuss detailed classification of chromosome	2	2

CO : Course Outcome Number **BTL** : Blooms Taxonomy Level
 Level of Bloom's Revised Taxonomy in Assessment

1: Remember	2: Understand	3: Apply
4: Analyze	5: Evaluate	6: Create
