Seat No: _____ Enrollment No:

PARUL UNIVERSITY

COLLEGE OF AGRICULTURE

B.Sc.(Hons.) Agriculture Supplementary Winter 2018-19 Examination

Semester: 2 Date:17/12/2018 **Subject Code: 20102152** Time:10:30 am to 01:00 pm **Subject Name: Fundamentals of Genetics Total Marks: 50** Instructions 1. All questions are compulsory. 2. Figures to the right indicate full marks. 3. Make suitable assumptions wherever necessary. 4. Start new question on new page. Q.1 Do as Directed. A. Fill in the blanks. (Each of 1.00 marks) (05)1. The experiment title of Mendel's research paper was 2. The experimental material of Mendel's work is 3. The character which supressed in the F1 generation is called_____ 4. The double helical structure of DNA was developed by _____ and _____. 5. The nitrogenous base which is absent in RNA is_____ 6. Study of cell is called_ 7. Transfer of characters from parents to offspring is called_____ 8. The term chromosome coined by 9. The character which appears in the hybrid or F1 plant is called_____ Father of Genetics 10. B. Multiple choice type questions. (Each of 1.00 mark) (10)1. Monosomy is represented by_____ a) 2n-1 c) 2n+1b) 2n-2 d) 2n+22. The rediscovery of Mendel's laws was during_ a) 1884 c)1900 b) 1865 d) 1905 3. The bond present between the sugar and nitrogenous base pairs in DNA is called_____ a) Phosphodiester bond c) Hydrogen bond b) Peptide bond d) Glycosidic bond 4. The hydrogen bonds present in between cytosine and guanine are a) 4 c) 3 d) 1 b) 2 5. The site of meiosis in plants are_____ a) Anthers and Ovaries c) Leaves b) Stems d) Roots 6. The term genetics was coined by a) Mendel c) Johanson b) Bateson d) Punnett 7. The chromosome number of garden pea_____ a) 18 c) 14 b) 16 d) 22 8. One gene controls the more than one character is called a) Epistasis c) Pleiotrophy b) Dominance d) Determinants 9. Synapsis takesplace in ______phase of meiosis division a) Pachytene c) Diplotene b) Zygotene d) Diakinesis 10. Formation of chaisma takesplace in which of following phase of the meiosis a) Pachytene c) Diplotene b) Zygotene d) Diakinesis 11. Crossing over occurs in_____ a) Pachytene c) Diplotene b) Zygotene d) Diakinesis

	12.	Synaptemal complex seen in	which phase of cell division	
		a) Pachytene	c) Diplotene	
		b) Zygotene	d) Diakinesis	
	13.	Longest phase in cell cycle		
		a) Pachytene	c) G1 phase of interpalse	
		b) Zygotene	d) Diakinesis	
	14.	Longest phase in the mitotic phase	of cell division is	
		a) Pachytene	c) G1 phase of interpalse	
		b) Prophase	d) Diakinesis	
	15.		in which phase of meiosis cell division	
		a) Pachytene	c) G1 phase of interpalse	
		b) Zygotene	d) Prophase	
	16.	The term mitosis was coined by		
		a) Flemming	c) Lundergardh	
		b) Bateson	d) Mendel	
	17.	Study of cell is called	,	
		a) Biology	c) Cytology	
		b) Genetics	d) Nephrology	
	18.	The term chromosome was coined b	, 1	
		a) Flemming	c) Lundergardh	
		b) Waldeyer	d) Mendel	
	19.	The Double helical structure of DNA	,	
		a) Flemming	c) Watson and Crick	
		b) Bateson	d) Mendel	
	20.	· ·	ains how many nitrogenous bases	
		a) 10	c) 30	
		b) 20	d) 40	
0.2	Do	as Directed.	-, -	
_		Define the following. (Any five)		(05)
		.Genetics		` '
		.Chromosome		
		.Dominance		
		.Epistasis		
		.Pleiotrophy		
		. Multiple alleles		
		.Maternal effects		
В		swer the following. (Any Five)		(05)
		.Incomplete dominance		` '
		.Hereditary determinants		
		.Gene		
	4	.Cell division		
	5	.Synapsis		
		Crossing over		
		7.Chaisma		
Q.3	Wr	ite short notes. (Any five)		(10)
		1. Define mitosis and explain the significance of mitosis in living organisms.		
		2. Write difference between the mitosis and meiosis		
		3. Give a detail description why Mendel got success with inheritance experiment		
		4. Why Mendel selected the garden pea has its experimental material.		
		5. Write difference between the epitasis and dominance		
	6. Explain the coupling phase of linkage with an example.			
Q.4		empt any Three/Long Questions	1	(15)
-		1. Explain the laws of Mendel with suitable example.		
		2. Explain the process of meiosis cell division with suitable diagram		
		3. State the types of epitasis and explain the recessive epitasis with an example.		
		Explain the double helical structure		