

S.No	Questions	Answers
3210.	<b>MENDEL'S LAW OF INHERITANCE</b>	
3211.	The tendency of individuals to resemble their parents are called	Heredity <b>ETEA-2018</b>
3212.	The difference between offspring and their parents are called	Variation
3213.	Heredity and variation play important role in the formation of	New species
3214.	The science which deals with the study of heredity and variation	Genetics
3215.	Genetics are also referred to the study of	Genes
3216.	The science of genetics originated in the year 1900 with the rediscovery of an article originally published in 1866 by an	Augustinian monk named Gregor John Mendel
3217.	The one who successfully explained the mechanism of inheritance during his research work on pea plant was	Mendel
3218.	Mendel was an Austrian monk and is properly known as	Father of genetics
3219.	Mendel was born on July 22, 1822 in	Czech Republic
3220.	Between 1856 and 1863 Mendel carefully analyzing the seven pairs of seed and plant characteristic and cultivated and tested about	28,000 pea plants
3221.	Mendel first delivered his lecture on pea plants in the year of	1865
3222.	Mendel published his paper "Experiments on plants hybridization" in	1866
3223.	<b>Later on in 1900, Mendel work was recognized by three investigators:</b> <ol style="list-style-type: none"> <li>1. A Dutch botanist Hugo de Vries</li> <li>2. De Correns of Germany</li> <li>3. Tschmarck of Austria</li> </ol>	
3224.	The Darwin's theory of evolution was appeared in the year of	1859
3225.	The journal in which Mendel work was republished was	Not recognized

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3226.	The scientist of Mendel era was not familiar with the	Statistical analysis of data																																
3227.	<b>The main characteristics of plant plants are as follow;</b> <ul style="list-style-type: none"><li>• can be grown in pots or in open area</li><li>• Short life cycle</li><li>• Self-pollinating flowers</li><li>• Cross pollination is possible</li><li>• Possesses distinct contrasting heritable characters</li></ul>																																	
3228.	<b>Mendel choose seven characters of pea plants for his experiments given below;</b> <table><tr><th>S.No</th><th>Character</th><th>Dominant trait</th><th>Recessive trait</th></tr><tr><td>1</td><td>Seed shape</td><td>Spherical</td><td>Wrinkled</td></tr><tr><td>2</td><td>Seed colour</td><td>Yellow</td><td>Green</td></tr><tr><td>3</td><td>Pod shape</td><td>Inflated</td><td>Constricted</td></tr><tr><td>4</td><td>Pod colour</td><td>Green</td><td>Yellow</td></tr><tr><td>5</td><td>Flower position</td><td>Axial</td><td>Terminal</td></tr><tr><td>6</td><td>Flower colour</td><td>Purple</td><td>White</td></tr><tr><td>7</td><td>Stem height</td><td>Tall</td><td>short</td></tr></table>		S.No	Character	Dominant trait	Recessive trait	1	Seed shape	Spherical	Wrinkled	2	Seed colour	Yellow	Green	3	Pod shape	Inflated	Constricted	4	Pod colour	Green	Yellow	5	Flower position	Axial	Terminal	6	Flower colour	Purple	White	7	Stem height	Tall	short
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3229.	A cross between two individuals that differ with one particular trait is called	Monohybrid cross																																
3230.	The character that appeared in F <sub>1</sub> generation are called	Dominant character																																
3231.	The hidden character that appear in F <sub>2</sub> generation are called	Recessive trait																																
3232.	The offspring of F <sub>1</sub> generation of true red round seed shape plant with true bred wrinkled seed shape will	All round seed shape																																
3233.	Mendel observed that the recessive character appeared in the F <sub>2</sub> offspring in an average ratio of	3 : 1																																
3234.	During Mendel's time the study of cytology was in its	Primitive stage																																
3235.	Mendel visualized the cause of inheritance as	Factors or elements																																
3236.	Factors/elements was named by Johanssen in 1909 as	Genes																																
3237.	According to Mendel, each male and female contain a pair of factors and they passed to its offspring only	One factor																																
3238.	<b>Mendel's work could be represented by laws of heredity. These laws are:</b> <ul style="list-style-type: none"><li>• Law of dominance</li><li>• Law of segregation</li><li>• Law of independent assortment</li></ul>																																	
3239.	Dominant allele is represented by	Capital letter																																
3240.	The recessive allele is represented by	Small letter																																
3241.	The condition of albinism is characterized by the lack of	Melanin pigment																																
3242.	Lack of melanin pigment occurs in the	Hair, eyes and skin																																
3243.	Out of two phenotype the more common is called	Wild phenotype																																
3244.	The rare form of phenotype is called	Mutant phenotype																																
3245.	The symbol used to indicate normal allele for wildlife is	+																																
3246.	According to the law of dominance, different characters are controlled by the	Factors																																
3247.	Factors are present in pairs, of which one factor	Is dominated over other																																
3248.	The offspring of two organisms that are particularly different for	Dihybrid																																



	two traits are called									
3249.	The fundamental law of genetics is called law of	Independent assortment								
3250.	The offspring of the RRYy x rryy were all heterozygous with	Round yellow seeds								
3251.	Mendel crossed RrYy x RrYy and the result was									
	<table><tr><td>Round yellow</td><td>Round green</td><td>Wrinkled yellow</td><td>Wrinkled green</td></tr><tr><td>9</td><td>3</td><td>3</td><td>1</td></tr></table>	Round yellow	Round green	Wrinkled yellow	Wrinkled green	9	3	3	1	
Round yellow	Round green	Wrinkled yellow	Wrinkled green							
9	3	3	1							
3252.	Two pairs of contrasting traits when followed in a cross, the alleles of one pair assort independently with the alleles of the other pair	Law of independent assortment <b>NMDCAT-2020</b>								
3253.	Independent assortment of gene was studied by Mendel in	1865								
3254.	Independent assortment of gene occurs during	Meiosis in eukaryotes								
3255.	After meiosis occur, each haploid cell contains a mixture of gene from the organism's	Mother and father								
3256.	Independents event will occurs simultaneously is the product of their individual probabilities	Product rule								
3257.	Probability of an event that can occur in two or more independent ways is the sum of the separate probabilities of the different ways	Sum rule								
3258.	If male plant is Pp and female plant is Pp, the probability of heterozygous plant are <ul style="list-style-type: none"><li>• product rule <math>\rightarrow \frac{1}{4}</math></li><li>• Sum rule <math>\rightarrow \frac{1}{2}</math></li></ul>									
3259.	<b>EXCEPTION TO MENDELIAN INHERITANCE</b>									
3260.	Dominance relation are of the following types: <ul style="list-style-type: none"><li>• Complete dominance <math>\rightarrow</math> tall;short</li><li>• Incomplete dominance <math>\rightarrow</math> 4'o clock plant flower</li><li>• Co-dominance <math>\rightarrow</math> blood group AB</li><li>• Over-dominance <math>\rightarrow</math> eye colour <b>ETEA-2018</b></li></ul>									
3261.	When one allele is completely dominant over another in heterozygous state is called	Complete dominance <b>NMDCAT-2020</b>								
3262.	When neither of the two alleles express independently in heterozygous state is called	Incomplete dominance								
3263.	Cross of true breeding red flowered plant with a true breeding white flowered of 4' o clock plant, all the hybrid orbitals are	Pink colour								
3264.	When Corren crossed two pink flowers the result was:									
	<table><tr><td>Red flower</td><td>Pink flower</td><td>White flower</td></tr><tr><td>1</td><td>2</td><td>1</td></tr></table>	Red flower	Pink flower	White flower	1	2	1			
Red flower	Pink flower	White flower								
1	2	1								
3265.	When different alleles of a genes that are both expressed in a hetrozygote condition are called	Co—dominance (blood group)								
3266.	When phenotypic expression of heterozygote become more intense than the homozygous state of the dominant allele are called	Over dominance								
3267.	Allele which code for one possible outcome of a phenotype are called	Gene								