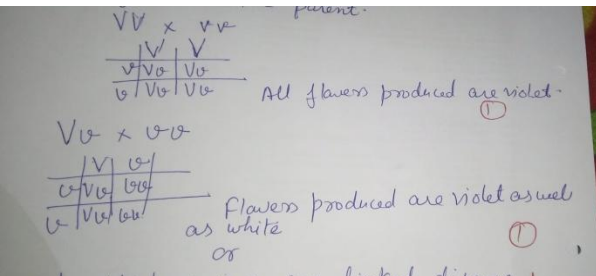
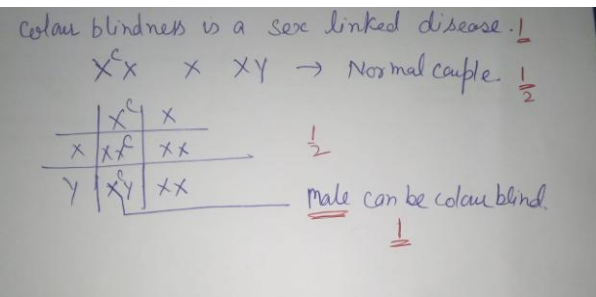


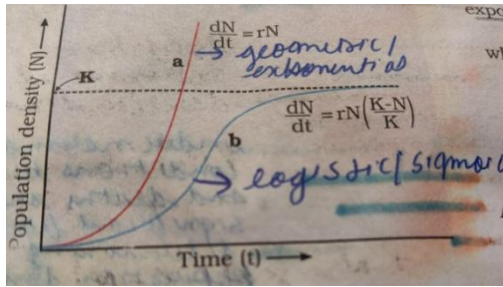
Key for set B - 12 BIOLOGY			
Sr.No	Value Point	Marks	
1	B) Endosperm	1	
2	A) Sprotopollenin	1	
3	C)FSH , Estrogen, Progesterone	1	
4	B)Decreases the movement of sperms	1	
5	C)Meischer	1	
6	D) Both sons and Daughters	1	
7	D) 50% bands similar to father and rest similar to mother	1	
8	B)	1	
9	A) Moth	1	
10	A) Population genetics	1	
11	D)Detrivore	1	
12	C)Defence	1	
13	A)Amensalism	1	
14	C) Loss of diversity	1	
15	C)	1	
16	C)	1	
17	C)	1	
18	C)	1	
Section-B			
19	Passive immunity	1	
	This type of immunity is required when antibodies are required instantly	1	
20	<u>Saccharomycescerevisiae</u>	1	
	Fermentation (in making idli, alcohol etc)	1	
21	➤ The problem of pollution has been controlled due to use biofertilizerusers.	1	
	➤ Economic to use biofertilizer as compared to chemical fertilizers.	1	
22	Enzyme linked Immuno sorbent assay.	1	
	<u>Principle:</u> Antigen antibody association .	1	
23	Male Heterogamy : When the gametes produced by male are of different Types for e.g in human being two kind of sperms are there e.g X and Y type of sperms.	1	
	Female Heterogamy : When the gametes produced by female are of different types for e.g in birds it eggs produced are of two one containiy "Z" chromosome and the containiy "W" chromosome .	1	
OR			
	Turner's syndrome	Down's syndrome	
1)	Genotype is XO	Genotype is having trisomy of 21 chromosome .	1
2)	Chromosome number is less than normal Indian dual e.g 45.	Chromosome number is more than normal indiab dual e.g 47.	1
24	DNA is better genetic material because		1
	1) It is chemically and structurally stable .		1
	2) It is undergoing slow changes that is required for evolution		

25	Convergent Evolution	Divergent Evolution	
1)	Structure of analogous organs show convergent evolution.	Structure of homologous organs show divergent evolution .	1
2)	e.g Wings of birds Insects and Bat.	e.gVertebrate fore- limbs.	1
Section-C			
26	The process of formation megaspores from the megaspore mother cell is called as megasporogenesis.		1
	The megaspore mother cell divide by meiosis result in formation of four cells .Out of these four cells one transforms into embryo sac . Its nuclei divide by mitosis by free nuclear division and after that cell wall formation takes place resulting in formation of mature embryo sac		1
OR			
1)	Pollen grains are non sticky numerous .		1
2)	Well exposed stamens .		1
3)	Large feathery stigma .		1
4)	Numerous flower packed into an inflorescence .		
27	By test cross VV & Vv both are violet coloured flowers in Pea plant as violet colour is dominating over white . So to find out its genotype it is crossed with homozygous recessive parent.		1
	 <p>Handwritten genetic cross for pea plant flower color. It shows a test cross: $VV \times vv$. The P generation is VV (violet) \times vv (white). The F1 generation is Vv (violet). A Punnett square shows $Vv \times Vv$ resulting in all violet offspring. Another cross $Vv \times vv$ is shown, resulting in $\frac{1}{2}$ violet and $\frac{1}{2}$ white offspring.</p>		1
OR			
	 <p>Handwritten genetic cross for color blindness. It shows a normal couple: $X^c X \times XY$. The P generation is $X^c X$ (normal female) \times XY (normal male). The F1 generation is $X^c X$ and XY. A Punnett square shows $X^c X \times XY$ resulting in $\frac{1}{2}$ normal and $\frac{1}{2}$ color blind male offspring.</p>		1
28	Plasmids are extra nucleoid circular DNA present in bacteria which are useful in genetic engineering . ❖ Having ori site for starting replication.		1

	❖ Cloning site for attachment of tereign DNA ❖ Selectable marker sites for distinguishing b/w Recombinants and non recombinants .	1 1
29	Pyramids are of three types (a) Pyramid of number- Always upright (b) Pyramid of Biommass- can be upright & inverted (c) Pyramid of energy – upright	1 1 1
30	❖ For direct economic benefits: Food, firewood fibre etc. ❖ For <u>Broadly Utilitarian ground</u> : For production of oxygen ,pollination. ❖ <u>Ethical</u> : Moral duty to pass the biodiversity to future generations for their well being .	1 1 1

Section-D

31. (1) Natality and Mortality 1
(2) The shape of logistic growth curve is S shaped 1



2

OR

The causes of population explosion are

- (1) Increased birth rate
- (2) Decrease in Mortality
- (3) Immigration

32. (1) No, Ravi is not suffering genetic disease 1
(2) Rajesh's friends suffered from diseases because Rajesh was suffering from communicable disease 1
(3) Communicable disease is that which can be transmitted from sufferer to healthy person 2

For example Tuberculosis

Non-communicable disease which cannot be transmitted from sufferer to a healthy person

For example Cancer

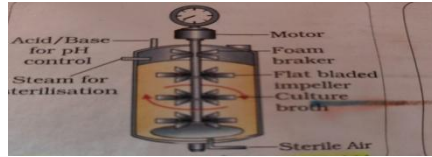
OR

Ravi may be suffering from communicable disease like Tuberculosis or Covid or any other communicable disease .

Section-E

33. Agrobacterium tumefaciens is a natural pathogen of several dicot plants 1
It deliver a piece of DNA to transform a normal plant cell into tumor 1
The tumor inducing plasmid of Agrobacterium tumefaciens has been modified into a cloning vector which is no more pathogenic to the plants but is still able to 3

use the Mechanisms to deliver genes of our interest into a variety of plants .
OR



3+2

34. The process of DNA fingerprinting involves the following steps

4+1

- (1) isolation of DNA
- (2) Digestion of DNA by restriction Endonucleases
- (3) Sparation of DNA fragments by electrophoresis
- (4) Treatment of DNA to spilit the double stranded DNA into single stranded DNA
- (5) Transferring of separated DNA fragments to synthetic membranes such as nitrocellulose or nylon
- (6) Hybridisation using labeled VNTR probe
- (7) Detection of Hybridised DNA fragments by auto radio graphy

This technique is used in forensic science , in determining population and genetic diversities

OR

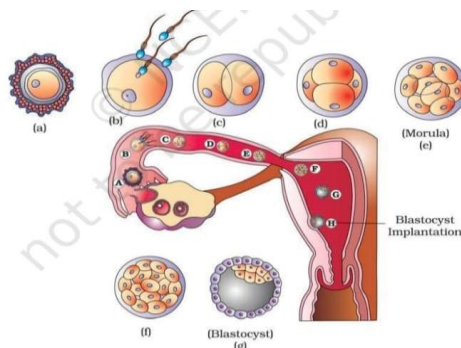
The process of formation of protein as per the information on mRNA is called as translation

1*5

The steps is translation are

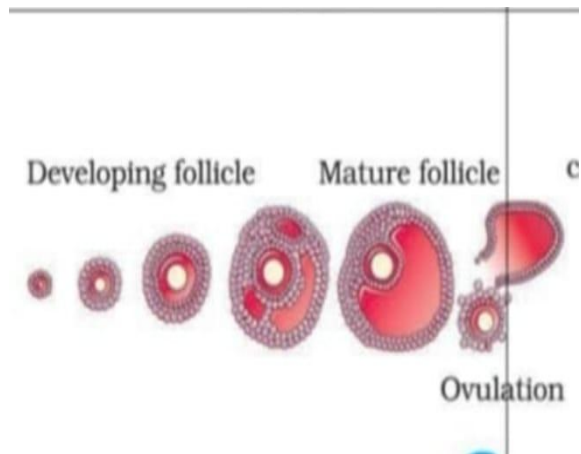
- (1) Activation of amino acids
- (2) Transfer of activated amino acids to tRNA
- (3) Initiation of polypeptide chain from starting codons
- (4) Elongation of the peptide chain by bonding in the adjacent amino acid
- (5) Chain termination due to stop codons

35.



1*5

OR



1*5