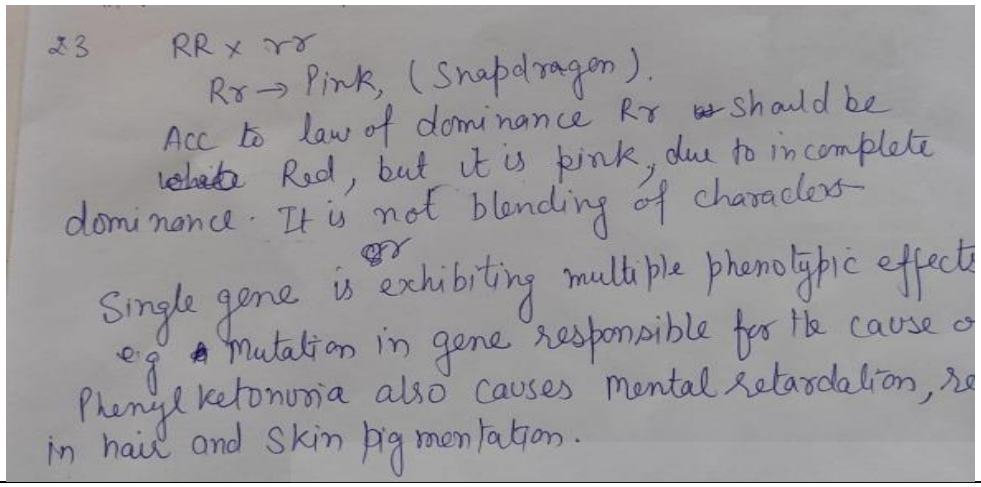
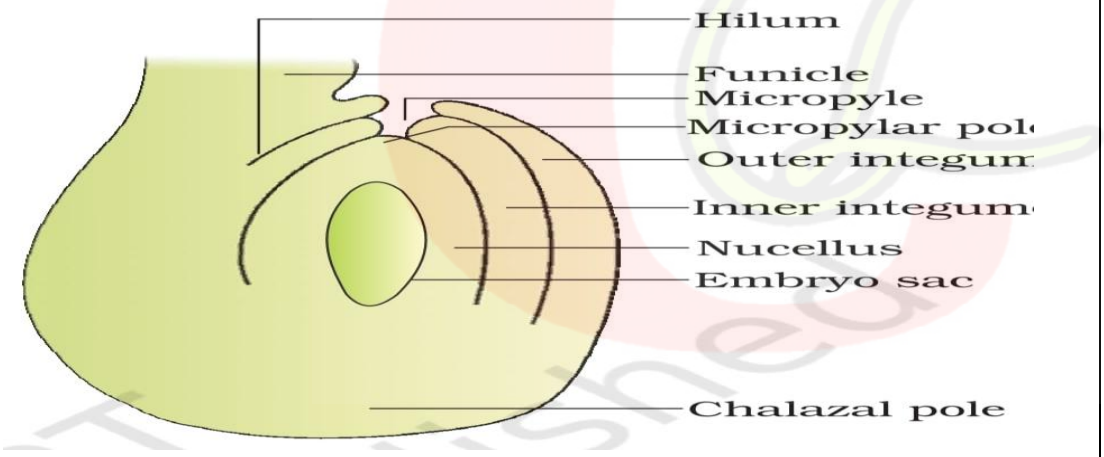
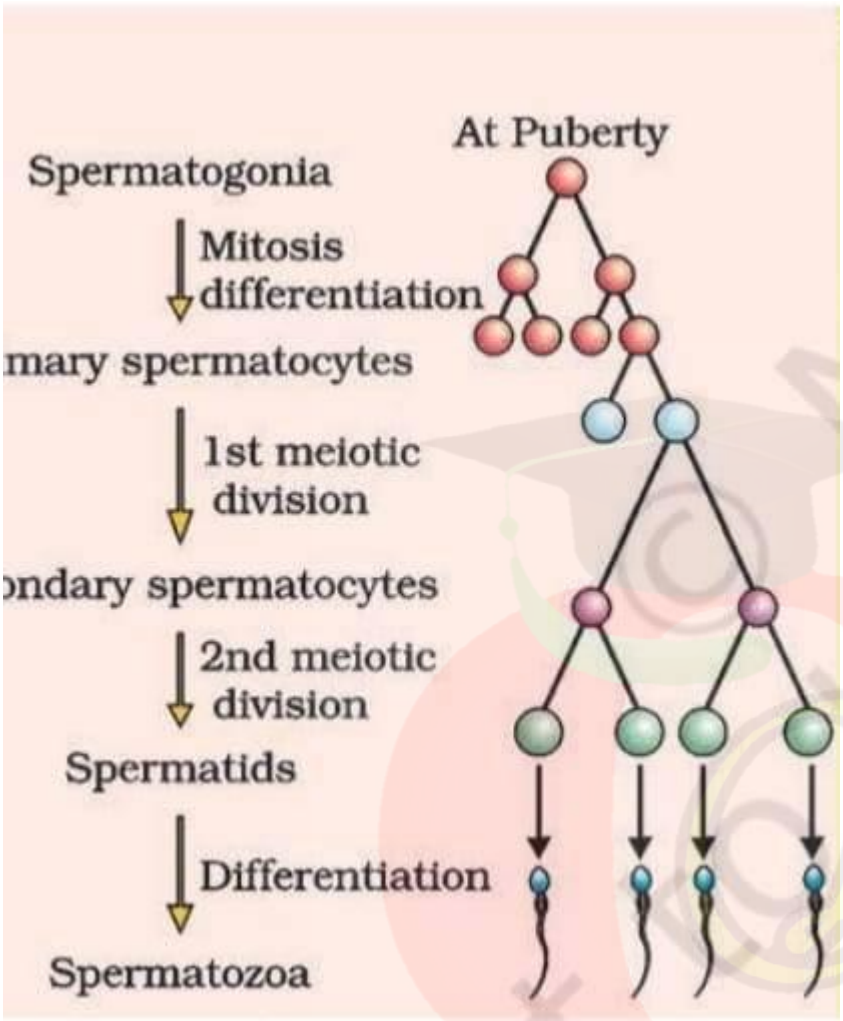
	Key for set C BIOLOGY 12	
Sr No.	Value Point	Marks
1	(D) 2 theca , 4 sporangia	1
2	(C) Strawberry	1
3	(B) Mitochondria	1
4	(C) IUI	1
5	(B) 2	1
6	(C) 2 Red : 2 Pink	1
7	(A) Si RNA	1
8	(D) UCCAUAGCUA	1
9	(B) 350	1
10	(B) Fish	1
11	(D) Standing state	1
12	(D) 100 per hour	1
13	(A) Respiration losses	1
14	(A) Yucca	1
15	D	1
16	(D)	1
17	(A)	1
18	(A)	1
19	Cell mediated immunity because cells involved in production of immunity. Humoral immunity because immunity producing antibodies are released in blood . OR Papaversomniferum Deprressant and slows down body functions .	1 1 1 1
20	PropiunibacteriumSharmanu Due to production of large amount of CO_2	1 1
21	TrichodermaPolysporum Immunosuppressive agent in organ- transplantation .	1 1
22	Rosie Milk contains Human alpha- lactalbumin which is nutrilionallya more balanced product for human bakes .	1 1

23		1 1
24.	Gentic code is triplet It is specific and unambiguous It is degenerate It is universal and continuous	.5 .5 .5 .5
25.	Homologous : Which are different in appearance but anatomically same for e.g forelimbs of vertebrates. Analogous organs : Which are similar in appearance but different in origin and anatomically e.g wings of insects and wings of birds.	1 1
26.	 OR Apomictic seeds can be produced by : i. Diploid egg is produced without reduction division and develops into embeyo. ii. Nucellus cells surrounding the embroysac start dividing and protrude into embryo sac and develop into embroys. In citrus and mango varieties some of the nucellar cells surrounding the embryo s sec start dividing protrude into embryo sec and developed into the embryos .	3
27.	Haemophila is sex linked recessive disease. The gene responsible for haemophilia is present on X chromosome. In males only one “X” chromosome is there, so if mutated gene is present on X chromosome then the male will certainly be sufferer.	1 1 1

	OR Haemophilia is sex linked recessive disease Qualitative disorders in which cloating of blood is effected .Thalassaemia is autosomal-linked recessive blood disease. In it due to mutation reduced rate of syntheses of hemoglobin. It is a quantitative disorder . The two come under menedelian disorder.	 1 1 1
28.	❖ Selectable marker is used to distinguish the recombinant and non-recombinant DNA . ❖ Normally the genes encoding resistance to antibiotic such as ampicillin, chloramphenicol, tetracycline kanamycin are considered as selectable marker for E coli ❖ Normal E coli cells donot carry resistance against any of these antibiotics.	1 1 1
	If the desired DNA is inserted in the genes coding for the antibiotics sensitinty the normal E coli becomes resistant to that antibiotic so by growing in that particular antibiotic containing medium the recombinants will grow and non-recombinants will not grow .	
29.	❖ The flow of energy is unidirectional ❖ Sun is the ultimate source of energy. Plants can convert solar energy into chemical energy. ❖ Only 10% of energy is transferred from one trophic level to another that's why the trophic levels are less in number in food chain.	1 1 1
30.	❖ Conservation in hot spot regions which leads to endemism ❖ Conservation in Biosphere reserves national parks and wild life sanctuaries ❖ Conservation of sacred groves	1 1 1
31.	1. Communicable disease common cold , Non-communicable disease cancer 2. Vector is an animal in which a part of life cycle of pathogen is completed in it ,female anaphloes mosquito a vector for malaria 3. Communicable disease are those which are transferred from the sufferer to a healthy person for example covid while non- communicable disease is that which is not transferred from sufferer to healthy person for example cancer OR Different modes of transmission of a communicable disease are:- Direct contact In-direct contact	1 1 2
32.	1. The symptoms observed in Aditya when he visited the crop fields are running nose watering eyes and continuous sneezing 2. Aditya was hypersensitive towards the crop in the farmland 3. The symptoms can be overcomed by avoiding the crop fields and by using anti allergic drugs OR Aditya suffered on visiting the farmland because of oversensivity towards the allergens produced by the crop fields.	1 1 2
33.	Spermatogenesis is the synthesis of sperms it takes place in testis.	1



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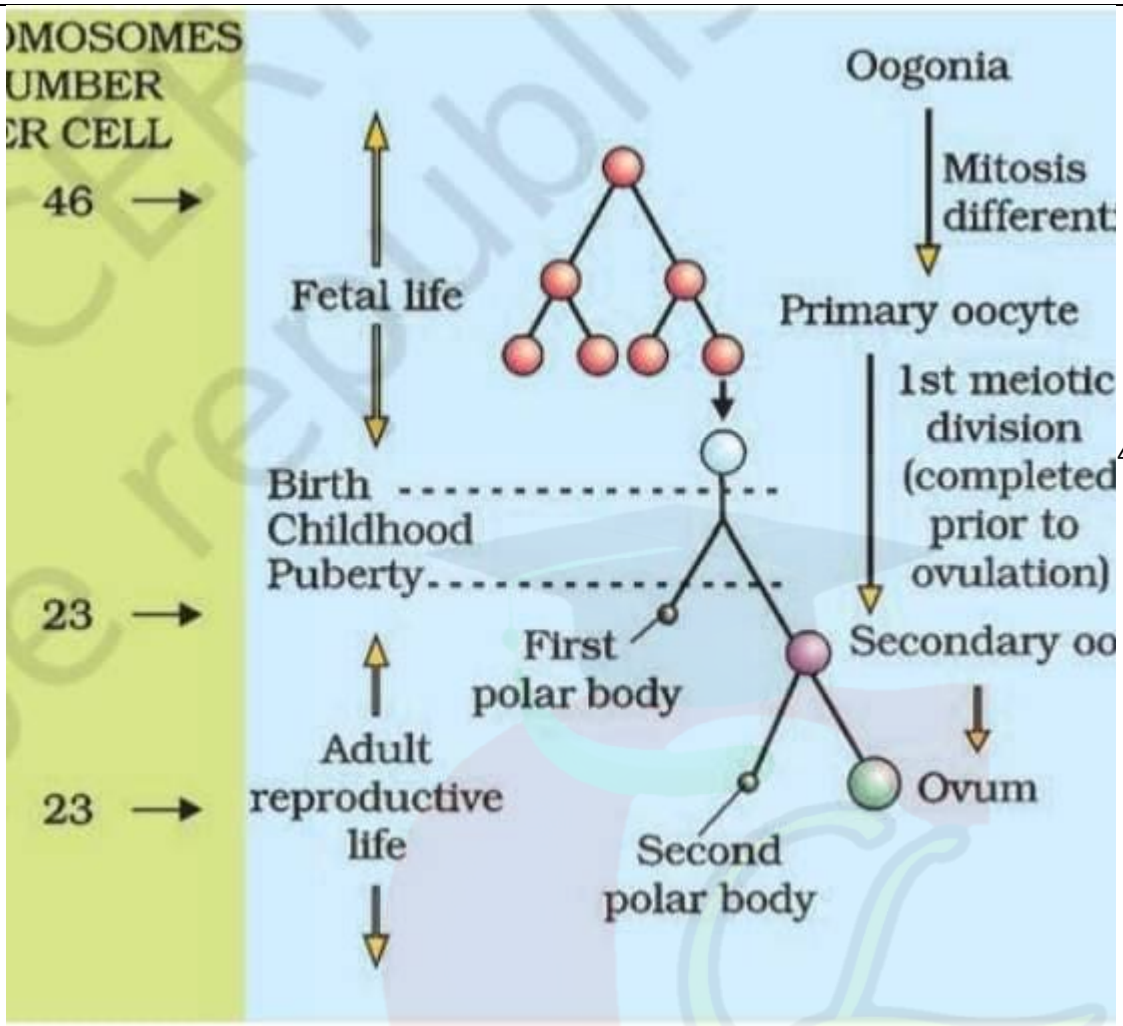
OR

Oogenesis is the synthesis of egg it takes place in ovary.

1

		4
34.	Lac operon consist of operator , promoter and regulatory genes When lactose acts as inducer. It binds with repressor and as a result the structural genes would be functional .	1 1

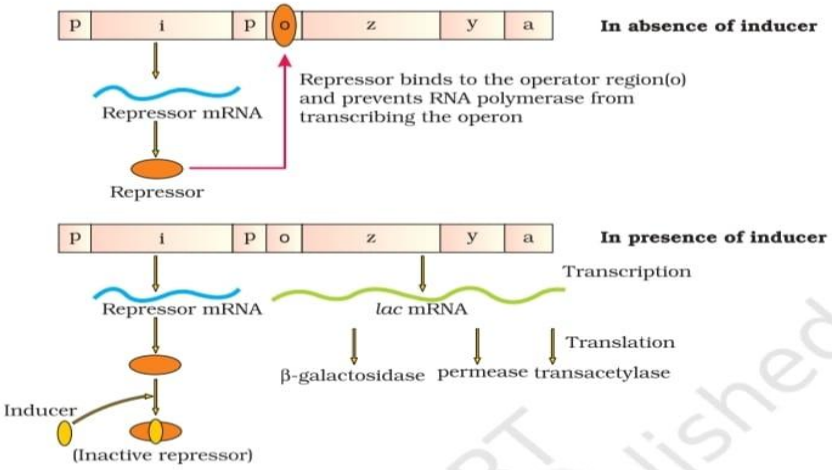
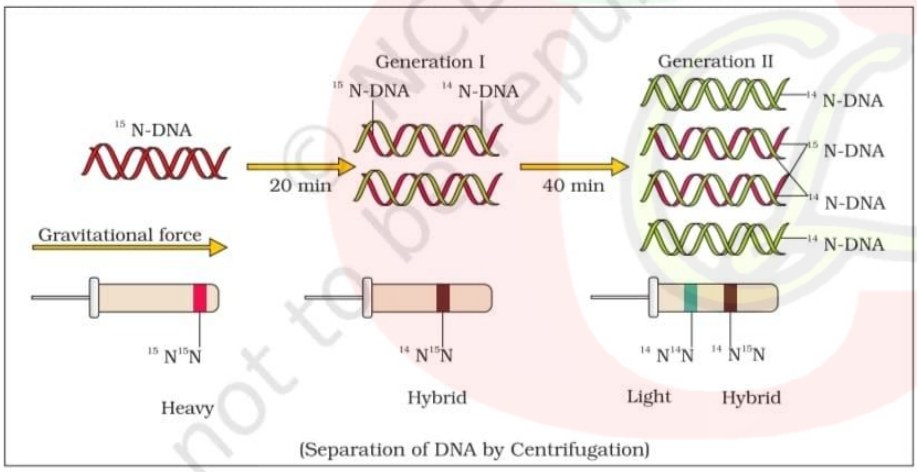


Figure 5.14 The *lac* Operon

3

OR



4

This experiment show that DNA replication is semi conservative

1

35.	Engineered plasmid of E coli is used Prepared in 1983 by Eli Lily American company ❖ Using Agro bacterium vector nematode specific genes were introduced into the host plant. ❖ The introduction of DNA was such that it produced both sense and anti sense RNA in the host cells . ❖ The two RNA's being complementary to each other formed ds RNA that initiated RNAi. ❖ Thus specific mRNA silenced which results in control over specific nematode.	1 1 1 1

	OR ❖ Using Agrobacterium vector nematode specific genes were introduced into the host plant. ❖ The introduction of DNA was such that it produced both sense and anti sense RNA in the host cells . ❖ The two RNA's being complementary to each other formed ds RNA that initiated RNA . ❖ Thus specific mRNA silenced which results in control over specific nematode.	1 2 1 1