

Key for set D BIOLOGY 12		
Sr.No	Value Point	Marks
1.	A) Parthenium	1
2.	D) Scutellum	1
3.	B) Leydig cells	1
4.	A) ZIFT and IUT	1
5.	B) 50%	1
6.	A) 50%	1
7.	A) Leading strand	1
8.	A) Bacterium	1
9.	A) Sedimentary Rocks	1
10.	D) Convergent Evolution	1
11.	C) Warm and moist environment	1
12.	D) Natality	1
13.	B) Resource partitioning	1
14.	C) Eichhorniacrassipes	1
15.	B)	1
16.	B	1
17.	C)	1
18.	A)	1
Section-B		
19.	Virus infected cells secrete proteins called interferons. Interferons protect non-infected cells from further viral infection.	1 1
20.	(a) Lactobacillus (b) Acetobacteraceae	1 1
21.	The living organisms products which check the growth of other living organisms. <u>Penicilliumnotatum</u>	1 1
22.	Genetic engineering approval committee Objectives: Make decisions regarding the validity of GM research and safety of introducing GM organisms for public services.	1 1
23.	Every organism has only two forms of a gene i.e only two allelic forms are presents in human being because chromosomes exists as homologous pairs there forethe genes will also be in pairs, but it is not essential that a gene exists only in two forms in a population, so the different forms of a gene can exist in population only. For e.g The genes for blood group are A,B and O.	1 1
OR		
	A cross which is used to access the genotype of an individual in it the individual to be tested is crossed with homozygous recessive parent if the progeny are showing only dominant feature then the parent(which was tested) is homozygous, if the progeny are showing both dominant and recessive feature it means the parent is homozygous.	1 1
24.	<u>Euchromatin</u> : It is lightly stained and transcriptionally active. <u>Heterochromatin</u> : It is darkly stained and transcriptionally in active.	1 1
25.	❖ Synthesis of antibiotic resistant pathogens due to continuous use of antibiotics. ❖ Excess use of Herbicides pesticides has resulted in selection of resistant varieties in which lesser time.	1 1

Section-C		
26.	Auto gamy : Transfer of pollen grains from anther to stigma of the same flower.	1
	Geitonogamy : Transfer of pollen grain from anther to stigma of the other flower on the same plant	1
	Xenogamy : Transfer of pollen grain from anther to stigma of the other flower on the different plant.	1
OR		
	1) Pollen release and stigma receptivity are not synchronized	1
	2) Anther and stigma are placed at different positions	1
	3) Self incompatibility	1
	4) Unisexual flowers	1
27.	Sex determination in Drosophila Males are hetero gametic.	1
	The sex of the offspring is decided by the type of contributed chromosome i.e if X type of sperms fertilizes egg then the offspring will be male, if Y type of sperm is fertilizing the egg then offspring will be male.	1
		1
OR		
	The characters/sex linked disease whose responsible genes are present on sex chromosome are called sex linked diseases. The genotype of Turner's syndrome is XO	1
	It can be caused by normal egg i.e without sex chromosome(due to non disjunction of sex chromosome).	1
	<u>Symptoms</u> : Sterile females ovaries rudimentary Lack of secondary sexual characters.	1
28.	1. Selectable marker sites : Sites in the cloning vector which are used to distinguish between Transformants and non-transformants.	1
	2. Cloning sites : Sites at which the desired DNA can be inserted so that multiple copies can be obtained along with replication of the core DNA.	1
	3. Ori site : The site in the vector from where the origin of replication takes place , it is essential as the purpose of vector is to generate multiple copies of the desired DNA.	1
29.	Grazing food chain starts with plants The primary consumer are herbivore Detritus food chain starts with dead organic matter The primary consumer are decomposers	1.5 1.5
30.	Ex situ means of conservation can be done by zoo, botanical gardens wildlife safari parks cryopreservation techniques, seed banks .	1 1 1
31.	1. The blue coloured contain in the figure is amniotic fluid 2. The developing foetus is enclosed in uterus 3. The shown is banned because it is misused for detecting the sex of foetus	1 1 2
OR		
	The prime aim of this technique is to find out chromosomal abnormality	
32.	1. The cause of his suffering is his chain smoking nature 2. Siddharth became chain smoker due to peer pressure 3. The symptoms of his sufferings are pain in chest , shortness of breath wheezing and chronic cough	1 1 2

OR

The ill effects of chain smoking are pain in chest , shortness of breath wheezing chronic cough

33.

3

Structure of mammary gland : Consists of glandular tissue & variable amount of fat.

- ❖ The glandular tissue is divided into 15-20 mammary lobes containing closters of cells called alveoli which secretmilk.
- ❖ The alveoli open into mammary tubules
- ❖ The tubules of each lobe join to from a mammary duct.
- ❖ Mammary ducts join to from ampulla which is connected to lacti ferous duct through which milk is sucked out.

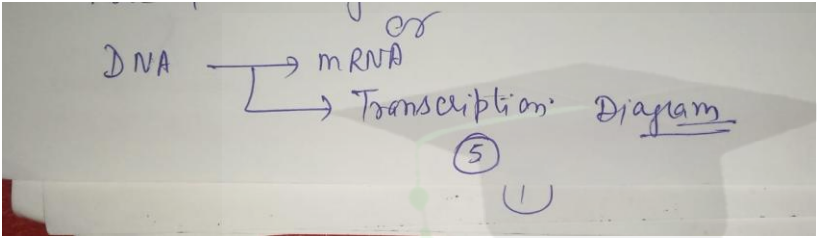
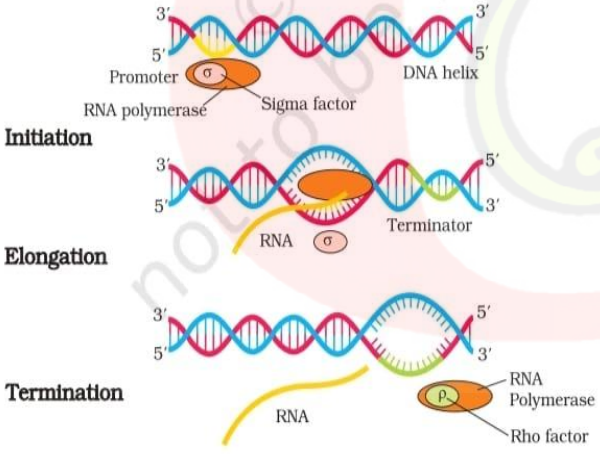
2

OR

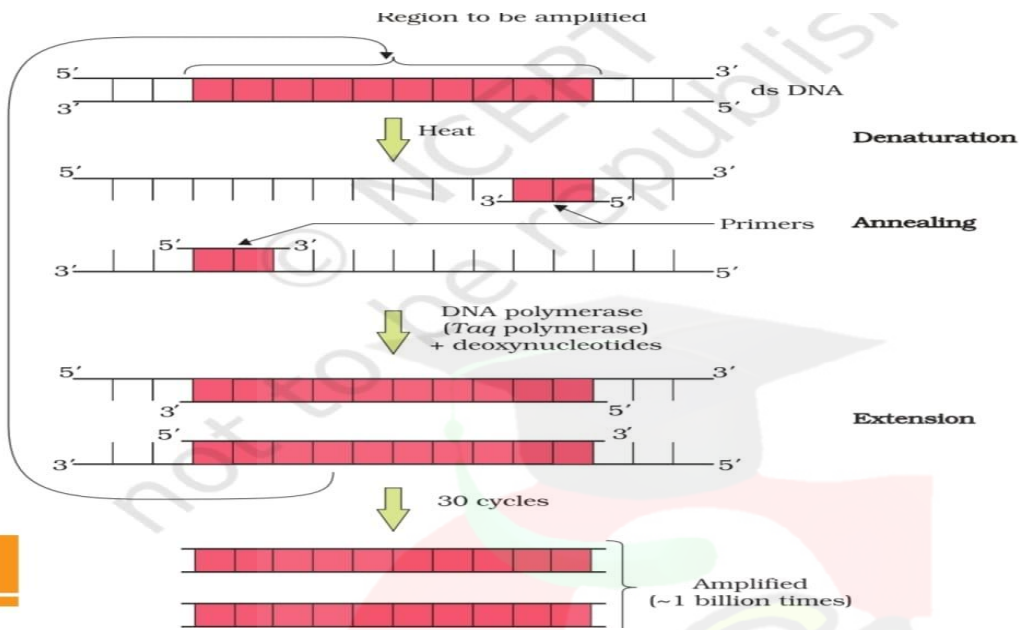
3

Sperm is consisting of  
Head : Having acrosome at tip DNA .

2

	Neck : Having centriole . Middle : Having mitochondria Piece	
34.	<p>Replication of DNA</p> <p>Requirements :</p> <ul style="list-style-type: none"> <li>❖ DNA polymerase</li> <li>❖ Deoxy ribose nucleotide triphosphates which acts as the energy source and raw material for DNA replication.</li> <li>❖ Formation of replication fork .</li> <li>❖ Continuous and discontinuous synthesis.</li> <li>❖ Role of DNA ligase is to attach the okazaki fragments .</li> </ul>	1 1 1 1 1
	OR	
	  	1  2 1 1
35.	<p>Restriction enzyme</p> <p>Cloning vector</p> <p>Competent host DNA is hydrophilic it cannot pass through cell membranes so , in order to take bacteria to take up the plasmid , the cell is made competent by : Treating specific concentration of a divalent cation like a which increases the efficiency with which DNA enters.</p> <ul style="list-style-type: none"> <li>❖ Recombinant DNA can be forced by incubating cells followed by placing them at 42°C (heat shock), it enables to take up recombinant DNA.</li> <li>❖ DNA can be inserted by micro injection or gene gun.</li> </ul>	1 1 1 1 1

OR  
 The required DNA can be increased in amount by polymerase chain reaction



1

1

1

1

1