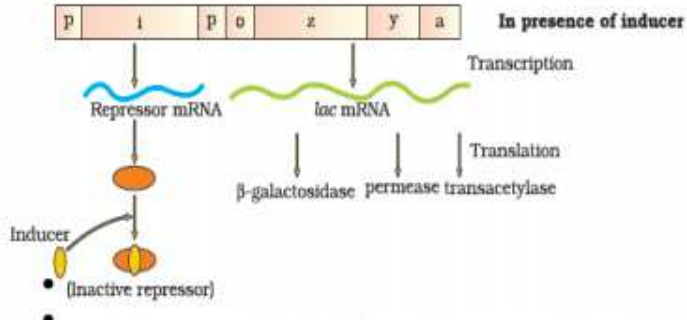
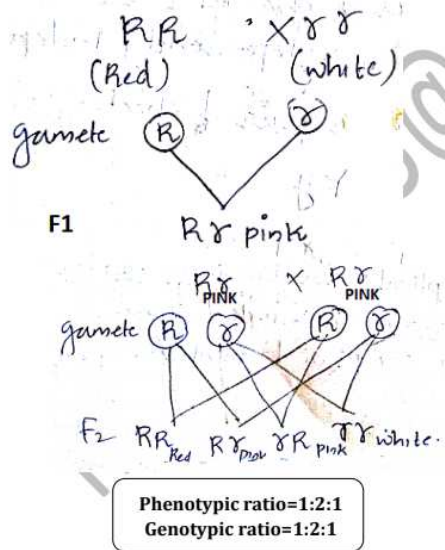


**SECOND YEAR HIGHER SECONDARY EXAMINATION MARCH 2021
UNOFFICIAL ANSWER KEY-ZOOLOGY**

Qn No.	Key	Score
Each questions from 1 to 7 carries 1 scores		
1	Saheli	1
2	Haemophilia	1
3	Nucleosome	1
4	Corpus Luteum	1
5	c)BOD	1
6	b)Forelimb of whale and Bat	1
7	a)Lipase	1
Each questions from 1 to 7 carries 1 scores		
8	Euchromatin	Heterochromatin
	They are loosely packed	It is densely packed
	It is light in color when it stains	It is Dark in color when it stains
	It is transcriptionally active	It is transcriptionally inactive
		1×2=2
9	a)Down's syndrome b)Short stature small round head With furrowed tongue Partially open mouth Palm is Broad with characteristic palm crease Physical,psychomotor and mental development is retarded (Any two charecterstic feature)	1 0.5×2=1
10	a)LAB/Lactic acid bacteria/ Lactobacillus	0.5
	b)Biocontrol/microbial biocontrol/control of butterfly catterpillar	0.5
	c)Produce citric acid	0.5
	d)Clostridium butylicum	0.5
11	Blood group of the children may be	0.5
	B blood group/O blood group	0.5
12	a)Immunoglobulin/Structure of antibody	0.5
	b)A-Antigen binding site	0.5
	B-Light chain	0.5
	C-Heavy chain	0.5
13	<u>Regulation of gene expression in Eukaryotes</u>	
	1.Transcriptional level (Formation of primary transcript)	0.5
	2.Processing level (Regulation of splicing)	0.5
	3-Transport of mRNA from nucleus to cytoplasm	0.5
	4-Translatational level	0.5
14	a)ICSI-Intra cytoplasmic sperm injection	1
	b)GIFT-Gamete intra fallopian transfer	1
15	a-Lippes loop	1
	b-Cu-7/Multiload 375	1
	c)LNG 20/Progestasert	1
16	1-Provide Counseling and creative awareness about reproductive related aspects	0.5
	2-Provide sex education in schools	0.5
	3-Provide family welfare information about birth control options,care of pregnant mother ...	0.5
	4-Provide awareness about Social evils like sex abuse and sex related crime to enable people to think and take up necessary steps to prevent them (Any 4 objectives of RCH programmes)	0.5
17	a)Habitat loss and fragmentation	0.5
	b)Alien species invasions	0.5
	c)Co Extinction	0.5
	d)Over exploitation	0.5
18	Write any 4 points regarding the effect of drugs/alcohol abuse	0.5×4=2
19	a)The process of evolution of different species in a given geographical area starting from a point and literally radiating to other areas of geography (Habitats)is called adaptive radiation	1

	b)Placental mammals in Australia and Australian Marsupials		0.5+0.5
20	Spermatogenesis	Oogenesis	0.5×4=2
	It is the process of formation of sperms	It is the process of formation of ovum/egg	
	It take place in male	It take place in female	
	It take place in testis	It take place in ovary	
	It starts only after puberty	It starts in embryonic stage itself	
	No polar body fromation	Polar body is formed during this process	
	From a single primary spermatocyte 4 sperms are produced	From a single primary oocyte only on egg is produced	
	There is no temporary arrest stage	Temporary arrest stage is present	
Any 4 difference			
21	i)Sickle cell anemia		1
	ii)Point mutation/It is due to substitution of Glutamic acid by valine at the 6 th position of the beta globin chain of haemoglobin molecule		1
22	hCG (Human Chorionic gonado tropin)		1
	hPL (Human placental Lactogen) Relaxin (Any two Hormones)		1
23	A	B	
	i)LH Surge	Ovulation	0.5
	ii)Leydig cells	Androgen	0.5
	iii)Ampullary-Isthmic junction	Fertilisation	0.5
	iv)Sertoli cells	Nutrition to spermatids	0.5
24	i)Tropical regions have remained relatively undisturbed for millions of years and thus had a long time for species diversification		1
	ii)There is more solar energy available in the tropics, which contribute to higher productivity :This in turn might contribute indirectly greater diversity		1
	iii)Tropical environments,unlike temperate ones, are less seasonal, relative more constant and predictable. such constant environments promote niche specialization and lead to greater species diversity. (Any two points)		
25	a)Vaccines are a preparation of antigenic proteins of pathogen or inactivated/weakened pathogen.		1
	b)The principle of vaccination is based on the property of Memory of immune system		1
26	Month of pregnancy	Features of embryonic development	
	i)First month	Heart sound is noticed using stethoscope	0.5
	ii)Second month	Limbs and digits are developed in foetus	0.5
	iii)Fifth month	First movement of the foetus is observed	0.5
	iv)Sixth month	Eye lids are separated and eye lashes are formed	0.5
Each questions from 27 to 31 carries 3 scores			
27	a)Hardy-Weinerg principle		1
	b)i)Gene micgration/Gene flow		0.5×4=2
	ii)Genetic drift		
	iii)Mutation		
	iv)Genetic recombination0		
v)Natural selection (Any 4)			
28	a)LH act at Leydig cell and stimulate synthesis and secretion of androgen FSH act on sertoli cells and stimulate the secretion of some factors, which help in the process of spermiogenesis		1
			1
	b)Gonadotropins		1

<p>29</p>	 <p>In presence of inducer</p> <p>Transcription</p> <p>Repressor mRNA</p> <p>lac mRNA</p> <p>Translation</p> <p>β-galactosidase permease transacetylase</p> <p>Inducer</p> <p>(inactive repressor)</p>	<p>3</p>
<p>30</p>	<p>a)Gonorrhoea Syphilis Genital Herpes Chlamydiasis Genital wart Trichomoniasis Hepatitis-B AIDS/HIV infections (Any 4 STDs)</p> <p>b)i)Avoid sex with unknown partners/Multiple partners ii)Always use condom during coitus iii)In case of doubt, one should go to a qualified doctor for early treatment if diagnosed with disease (Any 2)</p>	<p>0.5×4=2</p> <p>0.5×2=1</p>
<p>31</p>	<p>Inheritance of flower colour in the dog flower (snapdragon or Antirrhinum sp.) and Mirabilis jalapa (4 o' clock plant) is a good example to understand incomplete dominance.</p>  <p>Phenotypic ratio=1:2:1 Genotypic ratio=1:2:1</p>	<p>3</p>