

DIRECTORATE OF GOVERNMENT EXAMINATION, CHENNAI - 600006
HSC SECOND YEAR EXAMINATION, MARCH/APRIL - 2023
ZOOLOGY – KEY ANSWER

TOTAL MARKS: 70

- NOTE :**
- 1) Answer written only in **BLACK** or **BLUE** should be evaluated
 - 2) Choose the correct answer and write the option code
 - 3) If one of them (option or answer) is wrong, then award zero mark only
 - 4) Marks can be awarded, if students write in their own sentences with Zoology related concepts and explanations.

PART – I				
Answer all the questions:				15×1 =15
Q. No	TYPE -A		TYPE - B	
1	(b)	Extinction	(b)	Mesozoic era 1
2	(a)	Statins	(b)	Seagull (Fish eating birds) 1
3	(a)	Formation of three germ layer embryo from single layer embryo	(c)	Liver 1
4	(b)	AUG	(b)	IgE 1
5	(d)	All of the above	(a)	Formation of three germ layer embryo from single layer embryo 1
6	(b)	Mesozoic era	(c)	Spermarche 1
7	(b)	Homo erectus	(b)	AUG 1
8	(a)	Catadromous	(b)	Homo erectus 1
9	(c)	Spermarche	(d)	All of the above 1
10	(c)	Liver	(a)	Catadromous 1
11	(d)	Leydig cell	(b)	Over exploitation 1
12	(b)	Over exploitation	(a)	Conjugation 1
13	(b)	IgE	(a)	Statins 1
14	(b)	Seagull (Fish eating birds)	(b)	Extinction 1
15	(a)	Conjugation	(d)	Leydig cell 1

PART - II

Answer any six questions. Question number 24 is compulsory.		6×2=12
16	Plasmotomy : Plasmotomy is the division of multinucleated parent into many multinucleated daughter individuals with the division of nuclei.	2
17	Spermiogenesis: The spermatids are transformed into mature spermatozoa by the process called spermiogenesis.	1
	Spermatogenesis: Spermatogenesis is the sequence of events in the seminiferous tubules of the testes that produce the male gametes, the sperms.	1
18	Mayer-Rokitansky syndrome : All women are born with ovaries, but some do not have functional uterus. This condition is called Mayer-Rokitansky syndrome.	2
19	Lyonisation : Mary Lyon suggested that Barr bodies represented an inactive chromosome. In females becomes tightly coiled into a heterochromatin, a condensed and visible form of chromatin (Lyon's hypothesis) (OR) Number of Barr bodies observed in cell was one less than the number of x-chromosome.	2
20	Okazaki fragments : The discontinuously synthesized fragments of the lagging strand called as Okazaki fragments.	2
21	Bioremediation : The use of naturally occurring or genetically engineered microorganisms to reduce or degrade pollutants is called bioremediation	2
22	Red Data book : Red Data book or Red list is a catalogue of taxa facing risk of extinction	2
23	Eutrophication : When run-off from land containing nutrients reaches water bodies like lakes, it results in dense growth of plant life. This phenomenon is called Eutrophication.	2
24	Chicken Pox: <u>Mere attempt</u>	2

PART - III

Q.NO	Answer any six questions Question number 33 is compulsory	6x3=18
25	<p>Juvenile phase : Juvenile phase is the period of growth between the birth of the individual upto reproductive maturity.</p> <p>Reproductive phase : During reproductive phase the organisms reproduce and their offsprings reach maturity period.</p>	1½ 1½
26	<p>Labled sketch of spermatozoan :</p> <p align="center">Diagram parts</p>	2 1
27	<p>Tubectomy : Tubectomy is the surgical sterilisation in women. In this procedure, a small portion of both fallopian tubes are cut and tied up through a small incision in the abdomen or through vagina.</p> <p>Vasectomy : Vasectomy is the surgical procedure for male sterilisation. In this procedure, both vas deferens are cut and tied through a small incision on the scrotum to prevent the entry of sperm into the urethra.</p>	1½ 1½
28	<p>Salient features of Mutation Theory :</p> <ol style="list-style-type: none"> 1. Mutations or discontinuous variation are transmitted to other generations. 2. In naturally breeding populations, mutations occur from time to time. 3. There are no intermediate forms, as they are fully fledged. 4. They are strictly subjected to natural selection. (Any three) 	3
29	<p>Functions of immunoglobulin :</p> <ol style="list-style-type: none"> 1. Agglutination 2. Precipitation 3. Opsonisation 4. Neutralization <p align="right">(Any three)</p>	3
30	<p>Fermentors : A fermentor (bioreactor) is a closed vessel with adequate arrangement for aeration, agitation, temperature and pH control.</p> <p>Drain or overflow vent to remove the waste biomass of cultured microorganisms along with their products.</p>	1½ 1½
31	<p>PCR :</p> <ol style="list-style-type: none"> 1. Two primers (or) One Set of primer 2. synthesize new DNA 3. Thermus aquaticus Bacteria (or) Taq 	1 1 1

