

SY-226

**SECOND YEAR HIGHER SECONDARY
SECOND TERMINAL EXAMINATION, DECEMBER-2024**

**PART – B
ZOOLOGY UNOFFICIAL KEY
(Maximum : 30 Scores)**

Time :1 Hour

QN No.	Scoring Key	Score										
I. Answer any 3 questions from 1 to 5. Each carries 1 score												
1	Natural selection	1										
2	Matthew Meselson and Franklin Stahl/Taylor and Colleague	1										
3	Haemophilia, all others are chromosomal disorders/Haemophilia is the only Mendelian disorder among the given diseases	$\frac{1}{2}$ $\frac{1}{2}$										
4	Incomplete dominance	1										
5	tRNA,mRNA,rRNA (Write any two types of RNA)	$\frac{1}{2}+\frac{1}{2}$										
II. Answer any 7 questions from 6 to 16. Each carries 2 scores.												
6	a)Central Dogma in Molecular biology b) A-Transcription, B-Translation	1 $\frac{1}{2}+\frac{1}{2}$										
7	a)ELISA (Enzyme linked immune sorbent assay) b)Typhoid Fever	1 1										
8	a)Mating between relatives (Consanguineous mating) b)Affected female	1 1										
9	Match the following <table border="1" style="margin-left: 20px;"> <thead> <tr> <th>A</th> <th>B</th> </tr> </thead> <tbody> <tr> <td>Leydig cells</td> <td>Androgen</td> </tr> <tr> <td>Corpus luteum</td> <td>Progesterone</td> </tr> <tr> <td>Acrosome</td> <td>Hydrolytic enzyme</td> </tr> <tr> <td>Foetal ejection reflex</td> <td>Oxytocin</td> </tr> </tbody> </table>	A	B	Leydig cells	Androgen	Corpus luteum	Progesterone	Acrosome	Hydrolytic enzyme	Foetal ejection reflex	Oxytocin	$\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$
A	B											
Leydig cells	Androgen											
Corpus luteum	Progesterone											
Acrosome	Hydrolytic enzyme											
Foetal ejection reflex	Oxytocin											
10	a) 1. Avoid sex with unknown partners/multiple partners 2. Always use condoms during coitus. 3. In case of doubt, one should go to a qualified doctor for early detection and get complete treatment if diagnosed with disease (Any two preventive measures) b) STI are Diseases or infections which are transmitted through sexual intercourse /sexually transmitted infections	$\frac{1}{2}$ $\frac{1}{2}$ 1										
11	a)MTP-Medical termination of pregnancy b)ICSI-Intra cytoplasmic sperm injection c)ZIFT-Zygote intra fallopian transfer d)ART-Assisted reproductive technologies	$\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$										
12	a)A-Isthmus ,B-Infundibulum , C-Ovary b) Ampullary region of the fallopian tube/Oviduct	1 $\frac{1}{2}$ $\frac{1}{2}$										
13	a) Heterogeneous nuclear RNA b) Splicing, Capping, Tailing (Write any two processes)	1 $\frac{1}{2}+\frac{1}{2}$										
14	<table border="1" style="width: 100%;"> <thead> <tr> <th>Homologous organs</th> <th>Analogous organ</th> </tr> </thead> <tbody> <tr> <td>Homologous organs are organs having same structure and origin but different functions</td> <td>Organs having same function but different structure and origin</td> </tr> <tr> <td>This phenomenon is called homology.</td> <td>This phenomenon is called Analogy.</td> </tr> <tr> <td>Homologous organs are developed due to divergent evolution</td> <td>Such organs are developed due to Convergent evolution.</td> </tr> </tbody> </table>	Homologous organs	Analogous organ	Homologous organs are organs having same structure and origin but different functions	Organs having same function but different structure and origin	This phenomenon is called homology.	This phenomenon is called Analogy.	Homologous organs are developed due to divergent evolution	Such organs are developed due to Convergent evolution.	1 1		
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	Examples : 1.Fore limbs of whales, bats, Cheetah and human 2.The thorn and tendrils of Bougainvillea and Cucurbita 3) Vertebrate hearts or brains (Any one examples)	Examples 1. Wings of butterfly and of birds 2. The eye of the octopus and of mammals 3) The flippers of Penguins and Dolphins. 4) Sweet potato and potato(Any one examples)	
15	a)Tubectomy b)Oral contraceptive pill/Oral pills		1 1
16	a)A- Isolation of DNA B-Transferring (blotting) of separated DNA fragment to synthetic membranes, such as nitrocellulose or nylon C) Hybridization using labeled VNTR probe. b) DNA fingerprinting		½ ½ ½ ½
III. Answer any 3 questions from 17 to 20. Each carries 3 scores.			
17	a) $p^2 + 2pq + q^2 = 1$ b) i) Gene migration or gene flow, ii) Genetic drift, iii) Mutation, iv) Genetic recombination v) Natural selection. (Any four factors)		1 ½×4=2
18	a) Amoebiasis (Amoebic dysentery) b) <i>Entamoeba histolytica</i> c) Houseflies act as mechanical carriers and serve to transmit the parasite from faeces of infected person to food and food products, thereby contaminating them. Drinking water and food contaminated by the faecal matter are the main source of infection		1 1 1
19	a)p-Promoter i-Inhibitor gene/Regulator gene o-Operator gene b)Lactose c) Francois Jacob and, Jacque Monod		½ ½ ½ ½ ½ + ½
20	a) Neanderthal man b) Homo habilis c) Australopithecines d) Homo erectus e) Ramapithecus f) Dryopithecus		½ ½ ½ ½ ½ ½