



# ANSWER KEY

-1-

SECOND YEAR HIGHER SECONDARY EXAMINATION - MARCH 2020

PART - III

SUBJECT - ZOOLOGY

SCORE - 30

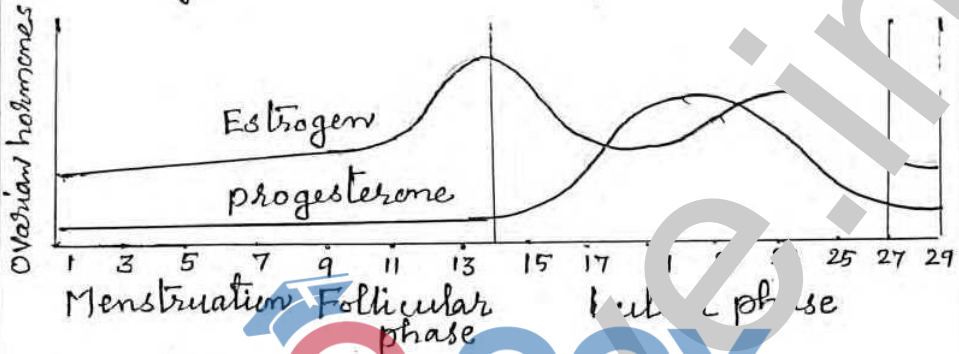
CODE NO. SY 26.

Qn No	Sub Qns	Answer Key / Value Points	Score	Total Score
I.				
1.		$\square$ / c	1	1
2.		ZIFT / b	1	1
3.		Methanobacterium / d	1	1
4.		Dryopithecus / b	1	1
5.		Alien species invasion / c	1	1
II.				
6.		Microbes in Household products		
		Microbes as Bio-fertilizer		
		Propionibacterium sharmanii	1/2	2
		Lactic Acid Bacterium	1/2	
		Aspergillus niger	1/2	
		Saccharomyces cerevisiae	1/2	
		Rhizobium		
		Azospirillum		
		Anabaena		
		Azotobacter		
7.	a.	Monohybrid	1	2
	b.	Law of dominance	1/2	
		Law of segregation	1/2	
8.	a.	No / I don't see	1/2	2
	b.	Fertilization can only occur if both ovum and sperm are transported simultaneously to the ampullary-isthmus junction of the oviduct (Fallopian tube). (Any other relevant response matching this may given 1 score)	1 1/2	
9.		A. Charles Darwin	1/2	
		B. Lamarck	1/2	

		c. Hugo de Vries D. Louis Pasteur (Any two right response may given full score)	$\frac{1}{2}$ $\frac{1}{2}$	2
10	a.	Triplet code, Universal, Commaless, Non-overlapping, Degeneracy, Ambiguity (any two)	1	2
	b.	AUG, Methionine	$\frac{1}{2} + \frac{1}{2}$	
11	a.	pre-natal diagnostic technique of foetal sex-determination & determination of genetic disorders of the foetus based on the chromosomal pattern in the amniotic fluid surrounding the developing embryo.	1	2
	b.	It is banned legally to check the increasing female foeticide / Kill the normal female foetus	1	
12	a.	Malaria - plasmodium Chill & shivering, high fever, profuse sweating	$\frac{1}{2}$ $\frac{1}{2}$	2
	b.	Amoebiasis - Entamoeba Constipation, Abdominal pain & stool with excess mucus and blood. (either correct name of disease or causative organism may given $\frac{1}{2}$ score also any one correct symptom may given $\frac{1}{2}$ score.)	$\frac{1}{2}$ $\frac{1}{2}$	
13		i Tropical latitudes have remained relatively undisturbed for millions of years ii Tropical environments are less seasonal - relatively more constant and predictable iii. There is more solar energy available in the tropics which contribute to higher productivity (Any two relevant points carry full score) OR Tropical Amazonian rainforest has the greatest biodiversity on earth with more than 40,000 species of plants, 3000 species of fishes, 1300 of birds, 427 of mammals, 427 of amphibian,		



		378 of reptiles, 125,000 species of invertebrates and up to 2 million insect species waiting to be known.	2	2
14.		<p>a) Opioids</p> <p>b) Central Nervous system / Stimulate Nervous system</p> <p>c) Poppy plant / <i>Papaver somniferum</i>.</p> <p>d) Hemp plant / <i>Cannabis sativa</i></p> <p>(Any three correct response may given 2 score)</p>	$\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$	2
15.	a.	Haemophilia is a sex linked recessive disease OR Sickle-cell anaemia is an autosomal linked - recessive disease	1	2
	b.	Turner's Syndrome is due to the absence of one of the X-chromosome. OR Klinefelter's Syndrome is due to the presence of an additional copy of X-chromosome.	1	
16	a.	Hardy-Weinberg principle	$\frac{1}{2}$	2
	b.	Gene migration, Genetic drift, Mutation, Genetic recombination & Natural selection (Any three correct)	$\frac{1}{2}$	
III	17.	<p>a. DNA Replication / Replication fork</p> <p>b. DNA polymerase, DNA ligase, Helicase, Topoisomerases, Primase (Any two)</p> <p>c. One strand is formed in 5'-3' direction continuously / Continuous strand / Leading strand. The other new strand is formed in small stretches in 5'-3' direction / Discontinuous strand / Lagging strand / Okazaki fragments</p>	1 $\frac{1}{2} + \frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$	3

18	<ul style="list-style-type: none"> <li>i. Avoid undue peer pressure.</li> <li>ii. Educating and counselling</li> <li>iii. Looking for danger signs</li> <li>iv. Seeking professional and medical help</li> <li>v. Seeking help from parents and peers</li> </ul> <p>(Any three - other relevant points regarding this topic can also be considered)</p>	1 1 1	3
19.	<p>a. A - Progesterone, B - Estrogen</p> <p>b.</p>  <p>c. Progesterone maintenance of endometrium + pregnancy</p>	$\frac{1}{2} + \frac{1}{2}$  1  $\frac{1}{2}$ $\frac{1}{2}$	3
20.	<p>a. 3 - TACG TACG TA - 5' TAC TACG TACG TA - 5'</p> <p>b. DNA dependent RNA polymerase</p> <p>c. The two RNA molecules if produced simultaneously would be complementary to each other, hence would form double stranded RNA. This prevents translation and transcription become futile.</p> <p>OR</p> <p>If both strands acts as templates, they would code for RNA molecules with different sequence and if they code for proteins the sequence of amino acids in the protein would be different and this would complicate the genetic information transfer machinery.</p>	1 1 1	3

