


SECOND YEAR HIGHER SECONDARY EXAMINATION MARCH 2019

SUBJECT : BIOLOGY- ZOOLOGY




CODE. NO: SY 26 B


Qn No	Sub Qns	Answer Key/Value Points	Score	Total
1		Zoological Park	1	1
2		Colostrum	1	1
3			1/2 + 1/2	1
4		<p>Dryopithecus → Ramapithecus → Australopithecines → Homo habilis → Homo erectus → Neanderthal man → Homo sapiens.</p> <p>(Any four continuous correct order give full marks)</p>	4 x 1/2	2
5	a	Nucleosome	1/2	
	b	8	1/2	
	c	<p>Euchromatin — Region of loosely packed chromatin / lightly stained area / Transcriptionally active</p> <p>(any one correct response)</p>	1/2	


Qn No	Sub Qns	Answer Key/Value Points	Score	Total
		<p>Heterochromatin - Region of densely packed chromatin/  densely stained area/ Transcriptionally inactive (any one correct response)</p>	1/2	2
6.		<p><u>Homologous Organs</u></p> <p>(a) Fore limb of man, cheetah, whale, Bat (b) Thorns and tendrils of Bougainvillea and cucurbita (c) Vertebrate hearts or Brains</p> <p><u>Analogous Organs.</u></p> <p>(a) wings of Butterfly, bird (b) Eyes of octopus and mammals (c) Flippers of penguins, and dolphins.</p> <p>Proper headings give 1/2 marks each Any one correct point in <u>each</u> <u>heading</u> give 1/2 marks</p>	1	2
7		<p>yes</p> <p>the sex chromosome pattern in human female is xx and in male it is xy / Human male is heterogametic and female is homogametic</p>	1/2	1/2

Qn No	Sub Qns	Answer Key/Value Points	Score	Total
		<p style="text-align: center;">♂</p> <p>genotype X X X Y</p> <p>gamete (X) (X) (Y)</p> <p style="text-align: center;">X X X Y</p> <p style="text-align: center;">♀ ♂</p> <p style="text-align: center;"> HSSLive.IN</p> <p>(Only connect illustration give 1/2 marks)</p>		2
8		<p>Phenyl Ketonuria</p> <p>Phenyl ketonuria is a mendelian disorder/ metabolic disorder/ alteration or mutation in a single base</p> <p style="text-align: center;">and the remaining all are chromosomal disorders.</p>	1 1	2
9		<p>(a) Endometrium/ myometrium/ uterus</p> <p>(b) Ovary</p> <p>(c) Isthmus</p> <p>(d) Ampulla</p>	1/2 1/2 1/2 1/2	2
10	a	Saccharomyces cerevisiae / Saccharomyces	1/2	
	b	Lactobacillus / LAB	1/2	

Qn No	Sub Qns	Answer Key/Value Points	Score	Total
	c	Trichoderma polysporum / Trichoderma	1/2	2
	d	Rhizobium	1/2	
11	a	Acquired Immunity 	1/2	2
	b	Physiological Barrier	1/2	
	c	Cytokine barrier	1/2	
	d	Cell mediated immunity / T Cells	1/2	
12	a	Natural method / Periodic abstinence / withdrawal or coitus interruptus / Lactational amenorrhoea.	1/2	2
	b	Tubectomy	1/2	
	c	Nausea, abdominal pain, breakthrough bleeding / irregular menstrual bleeding / breast cancer.	1/2 + 1/2	
		Any two correct response from 'c' give full mark (1 mark)		

Qn No	Sub Qns	Answer Key/Value Points	Score	Total								
13	a b c d	Habitat loss and fragmentation Over exploitation Alien species invasions co-extinctions or relevant explanations only	1/2 1/2 1/2 1/2	2								
14		<table border="1"> <thead> <tr> <th><u>Bacteria</u></th> <th><u>Fungus</u></th> <th><u>Virus</u></th> <th><u>Protozoan</u></th> </tr> </thead> <tbody> <tr> <td>Typhoid Pneumonia</td> <td>ring worms</td> <td>Common cold</td> <td>Amoebiasis Malaria</td> </tr> </tbody> </table> <p>(Heading with one example give 1/2 mark each)</p>	<u>Bacteria</u>	<u>Fungus</u>	<u>Virus</u>	<u>Protozoan</u>	Typhoid Pneumonia	ring worms	Common cold	Amoebiasis Malaria	1/2+1/2+1/2+1/2	2
<u>Bacteria</u>	<u>Fungus</u>	<u>Virus</u>	<u>Protozoan</u>									
Typhoid Pneumonia	ring worms	Common cold	Amoebiasis Malaria									
15	(a) (b) (c) (d)	B Sickle cell anaemia Substitution of glutamic acid (Glu) by Valine (Val) / GAG to GUG / single base substitution. the mutant haemoglobin molecules undergoes polymerisation under low oxygen tension causing the change in the	1/2 1/2 1									

Qn No	Sub Qns	Answer Key/Value Points	Score	Total
		shape of the RBC from biconcave disc to elongated sickle like structure/anemia	1	3
16	a	The DNA finger print of the suspect II matches with DNA from the crime scene. So suspect II is identified as the culprit / any relevant explanation	1	3
	c	 HSSLIVE.IN		
	b	Variable number of Tandem repeats / relevant explanation.	1	
	c	Stel Jeffreys.	1	
17	a	Sexually transmitted disease	1	3
	b	Gonorrhoea, Syphilis, Genital Herpes, chlamydia, Genital Warts, Trichomoniasis, Hepatitis - B, AIDS (any two of the above)	1/2 + 1/2	
	c	^{unknown} avoid sex with ^{unknown} partners / multiple partners / (ii) Always use condoms during coitus. (iii) In case of doubt consult a qualified doctor (any two of the above points)	1/2 + 1/2	

Qn No	Sub Qns	Answer Key/Value Points	Score	Total
18	a	Transcription	1/2	
	b	DNA-dependent RNA polymerase / RNA polymerase	1/2	
	c	Initiation 	1/2	
		Elongation	1/2	
		Termination	1/2	
		explanation of any one process	1/2	3

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