

SECOND YEAR HIGHER SECONDARY EXAMINATION MARCH 2018

SUBJECT: ZOOLOGY - II Year

CODE. NO: 9017

Qn No	Sub Qns	Answer Key/Value Points	Score	Total
I				
1.		Interstitial cells / Leydig cells	1	1
2.		Saheli / (b)	1	1
3.		Excooms / (c)	1	1
II				
4.		<p>Chromosome pattern of human female is XX and male is XY. Haploid gametes is produced by female contain only X while male produces either X or Y. Hence father determines sex</p> <p>OR</p> <p>Expression:- XX-XY type of sex determination / Heterogametic individual determines sex</p>	2	2
5.		<p>a) Natural methods -</p> <p>Periodic Abstinence</p> <p>Withdrawal / coitus interruptus</p> <p>Lactational amenorrhoea /</p> <p>Absence of menstruation.</p> <p>(Any two carries 1 mark)</p> <p>b) Barrier methods</p> <p>Condoms, Diaphragms, cervical cap, vaults</p> <p>(Any two carries 1 mark)</p>	1	2

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6.	a)	<p>Negatively charged DNA wrapped around positively charged histone octamer / Nucleosomes are chromatin beaded on string / DNA + Histone octamer / labelled diagrams of nucleosomes.</p>	1	
	b)	<p>Euchromatin - chromatin regions loosely arranged, transcriptionally active / lightly stained (Any one response)</p>	$\frac{1}{2}$	2
		<p>Heterochromatin - chromatin regions densely packed, transcriptionally inactive / darkly stained (Any one response)</p>	$\frac{1}{2}$	
7.	a)	<p>Incomplete dominance</p>	1	
	b)	<p>Definition of Incomplete dominance / Blending of colours or genes / Gene interaction / Abnormal or less efficient enzymes / Non functional enzyme / No enzyme at all (Any one response)</p>	1	2


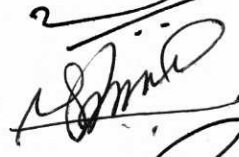



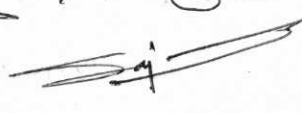


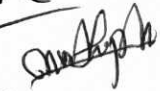
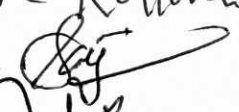

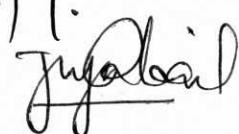
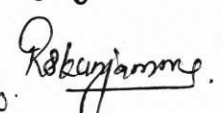
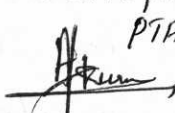


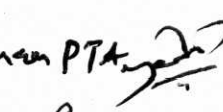
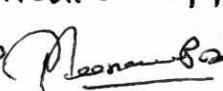

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8	A B C D	Homologous organs Divergent evolution Analogous organs Convergent evolution	$\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$	2
9		1) Gene migration / Gene flow 2) Genetic drift 3) Mutations 4) Genetic Recombination 5) Natural selection [ Four correct responses ]	$4 \times \frac{1}{2}$	2
10		1) Physical barriers Skin / mucous coating in respiratory system, Urogenital system and gastro intestinal system 2) Physiological barriers Acid in stomach / salivary / tear 3) Cellular barriers PMSC / Natural killer cells / Monocyte Macrophages		

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		<p>4) cytokine barriers - Interferons</p> <p>[ 4 barriers / 2 barriers with their appropriate examples ]</p>	4 x 1/2	2
11.	A B C D	<p>Salmonella / salmonella typhi</p> <p>Common cold / cold</p> <p>Plasmodium falciparum / plasmodium</p> <p>Elephantiasis / filariasis</p>	1/2 1/2 1/2 1/2	2
12.		<p>Drop in academic performance / Lack of interest in personal hygiene / Absent from schools / Isolation / Withdrawal symptoms / Depression / Fatigue / Aggressive and rebellious behaviour / Loss of interest in hobbies / Change in sleep and eating habit / Fluctuation in weight and loss of appetite</p> <p>[ Four correct responses ]</p>	4 x 1/2	2

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13.		<p>1) OH group / hydroxyl group of RNA is reactive and hence easily degradable</p> <p>2) RNA is catalytic and hence reactive</p> <p>3) Mutated at faster rate</p> <p>4) Presence Uracil makes RNA less stable.</p> <p>5) RNA is single stranded while DNA is double stranded</p> <p>[ Two correct responses ]</p>	2x1	2
14.		<p>A Aspergillus niger</p> <p>B Bacterium</p> <p>c. cyclosporin A / cyclosporins</p> <p>d) Monascus purpureus</p>	4x1/2	2
15.	a)	<p>S - species richness</p> <p>A - Area</p> <p>r - slope of line / Regression coefficients</p> <p>c - Y intercepts</p>	4x1/2	

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16	b)	Alexander Von Humboldt	1	3
	a)	<p>Lactose switch off lac operon as inducer / Lactose binds with the repressor undergoes structural modifications hence can't bind with operator</p> <p>b) A. Repressor m. RNA / Repressor / Regulator gene</p> <p>B. <math>\beta</math> galactosidase / lac Z / Structural gene</p> <p>c. Permease / lac Y / Structural gene</p> <p>D. Trans acetylase / lac a / Structural gene.</p>	<p>1</p> <p><math>4 \times \frac{1}{2} = 2</math></p>	
17.	a)	<p>Gonorrhoea / syphilis / Genital herpes / Genital warts / Trichomoniasis / Chlamydiae / Hepatitis-B / AIDS [Any two]</p>	<p><math>2 \times \frac{1}{2} = 1</math></p>	3



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