Biology 3201
June 2016 Public Exam Outcome Report

This examination follows the specifications, conventions and standards set out in the:
Biology 3201 Provincial Exam Standards

<u>Units</u> 1 - Maintaining Dynamic Equilibrium 3 - Genetic Continuity
2 - Reproduction and Development 4 - Evolution, Change and Diversity

PART I: Selected Response—Total Value: 75%

Item	Curriculum Guide Page	Outcome	Cognitive Level	Outcome Description
1	28	116-7	L1	Identify methods of protecting our central nervous system.
2	28	116-7	L2	Identify the structures of the central nervous systems.
3	28	116-7	L1	Identify a part of the brain, given its function and a diagram.
4	30/34 lab	116-7	L1	Recall the order of events in a reflex arc.
5	30	317-1	L2	Identify a part of a neuron and give its function.
6	32/34	317-2 212-6	L1	Recall a specific reflex response.
7	32	317-1	L2	Distinguish between an inhibitory and an excitatory response.
8	36	115-5	L1	Identify a specific type of technology that can produce an image of a body part.
9	40	317-1	L1	Identify a specific part in the eye when given a diagram.
10	42	317-4	L2	Identify a specific part of the ear when given its function.
11	34	317-4	L1	Identify a specific nervous system disorder when given its symptoms.
12	48/50	317-4	L2	Identify a specific endocrine system disorder, when given its symptoms.
13	44	317-1	L3	Demonstrate an understanding of the functions of the various endocrine glands.
14	48	317-2	L1	Demonstrate knowledge of the roles/functions of the female reproductive system.
15	48	317-4	L2	Identify a specific endocrine system disorder, when given its symptoms.
16	(Unit 2) 58	313-2	L2	Recall the events that occur during the stages of mitosis/meiosis when given a diagram
17	58	313-2 213-3	L1	Identify the stages of mitosis, when given a diagram of a specific stage.
18	60	313-2	L1	Identify specific examples of events that occur in interphase.
19	60	317-5	L1	Recall effects of specific cancer treatment approaches.

20	60	313-2 313-3	L3	Determine the resulting chromosome arrangement during specific stages of meiosis.
21	64	116-7	L1	Identify similarities/differences in the processes of spermatogenesis and oogenesis.
22	64	116-7	L1	Identify the type of asexual reproductions a specific organism usually undergoes.
23	68	313-3	L1	Recall the parts/functions of the male reproduction system.
24	66	313-2	L2	Demonstrate an understanding of sexual reproduction in flowers.
25	70	313-3	L1	Recall the parts/functions of the female reproduction system.
26	66	313-2	L1	Identify differences between haploid and diploid cells.
27	68	313-3	L2	Demonstrate an understanding of the parts/functions of the male reproduction system.
28	70	313-4	L2	Identify the effect hormones have on the female reproductive system.
29	70/72	313-5	L2	Identify hormonal changes that occur during pregnancy.
30	74	313-5 313-6	L2	Identify characteristics/examples of causes of infertility.
31	72	313-4	L1	Recall the causes/treatments of a specific STI.
32	76	118-4	L1	Recall characteristics about various birth control methods.
33	78	313-4	L1	Identify the correct pathway a sperm must travel to successfully fertilize an egg.
34	78	313-4	L2	Demonstrate an understanding of the differences between fraternal and identical twins.
35	80	116-2	L2	Demonstrate an understanding of the technologies used to monitor embryo development.
36	(Unit 3) 86	315-3	L1	Distinguish between heterozygous and homozygous genotypes.
37	86	315-3	L1	Identify a specific foundering scientist in the field of genetics.
38	86	315-3	L1	Identify examples of genotype vs phenotype.
39	86	315-3	L3	Interpret patterns and trends in genetics using the product rule.
40	88	315-3	L1	Recall the inheritance patterns demonstrated in co-dominance/incomplete dominance.

41	90	214-5	L1	Recall which genotypes are involved in a test cross.
42	90	214-5	L2	Perform a monohybrid cross involving blood types.
43	88	212-4	L2	Interpret patterns and trends in a monohybrid cross.
44	90	214-5	L2	Interpret patterns and trends in a monohybrid cross.
45	94	315-1	L1	Recall traits that demonstrate polygenic inheritance.
46	96/98	114-2 314-3	L2	Apply Chargaff's rule to an unseen example.
47	94/104	315-1	L1	Interpret patterns involving monohybrid crosses of sex-linked traits.
48	98 lab	315-5	L2	Recall the events that occur throughout transcription/translation.
49	98 lab	315-5	L3	Use a codon table to identify a DNA/amino acid sequence.
50	94	214-5	L2	Interpret patterns involving monohybrid crosses of sex-linked traits.
51	96	114-2	L1	Identify the contributions made by various scientists in the field of genetics.
52	100	315-7	L1	Recall various gene mutations
53	98	314-3	L1	Recall the components of a DNA/RNA nucleotide.
54	98	315-4	L1	Recall the events that occur throughout transcription/translation.
55	100	315-7	L2	Identify a mutation type given an unseen example.
56	98	315-5	L1	Recall the events that occur throughout DNA replication.
57	102 lab	315-4	L3	Interpret a karyotype to identify a specific genetic syndrome.
58	98	215-2 315-4	L2	Interpret patterns in the complimentary nature of DNA and RNA.
59	106	214-5	L3	Identify individual genotypes in a pedigree.
60	108	315-10 117-2	L1	Recall the findings of the Human Genome Project.
61	108	116-4 STSE	L1	Recall the steps/processes involved in DNA amplification.
62	108	315-9	L2	Recall the process of DNA fingerprinting.
63	108	315-9	L2	Interpret gel electrophoresis diagrams.
64	110	118-2	L1	Identify an example of an organism produced through genetic engineering.

65	118	316-3	L1	Recall the difference between artificial and natural selection.
66	120	114-2	L1	Identify the contributions of various scientists in the field of evolution.
67	122	114-2	L1	Identify the significance of particular evidences for the theory of evolution.
68	120	114-2	L2	Identify the contributions of various scientists in the field of evolution.
69	122	114-2	L3	Interpret patterns of relatedness given evidences for the theory of evolution.
70	124	212-1	L2	Demonstrate knowledge of half-life calculations.
71	124	212-4 213-5	L1	Correctly use the Hardy-Weinberg equilibrium equations to determine the frequency of a particular trait/group of individuals.
72	126	316-3	L2	Given an example, determine the type of natural selection which is occurring.
73	128	316-3	L1	Recall the various methods of speciation.
74	128	316-3	L2	Identify an example of a prezygotic/postzygotic barrier.
75	130	316-4	L1	Identify an example of a theory pertaining to the origin of life on Earth.

PART II: Constructed Response—Total Value: 25%

Item	Curriculum Guide Page	Outcome	Cognitive Level	Value	Outcome Description
76a(i)	30	317-1	L3	2	Identify possible errors in neural transmission.
76a(ii)	30	317-1	L3	1	Interpret a membrane potential diagram.
76b	44	317-1	L2	2	Distinguish between proper functioning of steroid and non-steroid hormonal function.
77a	62	118-6 213-7	L3	2	Evaluate efficacy of various cancer treatments.
77b(i)	76	313-5,6	L3	1	Identify various methods of fetal examination.
77b(ii)	76	313-5,6	L3	1	Evaluate aspects of reproductive technologies/contraception control.
77c	68/70	313-3	L2	2	Describe obstacles to fertilization and ways to overcome these.
77d	78/80	313-4	L2	1	Identify effects of substances on embryonic membrane development.
78a(i)	90	214-5	L2	1	Given a description, determine parental genotypes.
78a(ii)	90	214-5	L2	2	Conduct and interpret inheritance patterns using a 2 trait cross to determine the genotypic/phenotypic ratios.
78b(i)	100	315-4	L2	1	Describe the effects of environmental factors on gene expression.
78b(ii)	100	315-4	L2	1	Describe the results of environmental factors on gene expression.
78c(i)	106	116-6	L3	1	Identify the cause of a trisomy or monosomy.
78c(ii)	106	116-6	L3	1	Identify methods for determining chromosomal mutations.
78d	110	118-2 STSE	L3	2	Identify the pros/cons of genetic engineering technologies.
79a	124	212-4 213-5	L2	2	Correctly use the Hardy-Weinberg equilibrium equations to determine the frequency of a particular trait/group of individuals.
79b	128	316-4 114-2	L3	2	Identify evidences pertaining to the development of life.