

# FOR TEACHERS ONLY

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The University of the State of New York  
REGENTS HIGH SCHOOL EXAMINATION

## LIVING ENVIRONMENT

Thursday, June 24, 1999—9:15 a.m. to 12:15 p.m., only

### SCORING KEY

#### Part A (35 credits)

Allow a total of 35 credits for Part A, one credit for each correct answer.

1	1	13	2	25	1
2	3	14	2	26	2
3	3	15	3	27	3
4	1	16	2	28	4
5	2	17	1	29	3
6	4	18	3	30	1
7	3	19	4	31	4
8	1	20	4	32	1
9	4	21	2	33	1
10	2	22	4	34	3
11	4	23	3	35	4
12	1	24	4		

**Part B (30 credits)**

Allow a total of 30 credits for Part B, one credit for each correct answer.

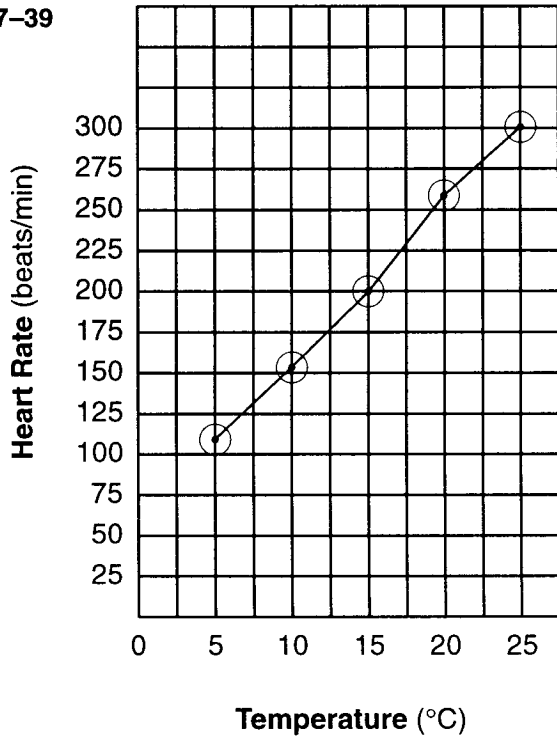
36

**Data Table**

Temperature (°C)	Heart Rate (beats/min)
5	108
10	152
15	200
20	260
25	300

The data table may also be completed with temperature decreasing from the top to the bottom of the data table.

37–39



**Rating instructions for questions 37–39.**  
Allow one credit for each of the following:

- 37 Marking an appropriate scale on the axis labeled “Temperature”
- 38 Marking an appropriate scale on the axis labeled “Heart Rate”
- 39 Plotting the data correctly, surrounding each point with a small circle, and connecting the points

40 ... 3 ...

The answer below represents a sample response. Other complete-sentence responses are acceptable. Allow no partial credit.

41 As the temperature increases, the heart rate in *Daphnia* increases.

42 ... 1 ...

43 ... 4 ...

44 ... 3 ...

The answer below represents a sample response. Other complete-sentence responses are acceptable. Allow no partial credit.

45 Pesticides are chemicals that might interfere with DNA replication and gene production.

46 ... 4 ...

47 ... 4 ...

The answers below represent sample responses. Other complete-sentence responses are acceptable. Allow no partial credit.

48 Oxygen decreases. *or* Carbon dioxide increases.

49 If the yellow perch population increases, the zooplankton population would decrease.

50 ... 2 ...

51 ... 3 ...

52 ... 1 ...

53 ... 2 ...

54 ... 4 ...

<p>The answer below represents a sample response. Other complete-sentence responses are acceptable. Allow no partial credit.</p> <p><b>55</b> The farther away the food supply is, the fewer the turns in the waggle dance.</p> <p><b>56</b> ... <b>2</b> ...</p> <p>The answer below represents a sample response. Other responses are acceptable. Allow no partial credit.</p> <p><b>57</b> The independent variable is sunlight.</p>	<p><b>58</b> ... <b>1</b> ...</p> <p><b>59</b> ... <b>4</b> ...</p> <p><b>60</b> ... <b>2</b> ...</p> <p><b>61</b> ... <b>2</b> ...</p> <p><b>62</b> ... <b>1</b> ...</p> <p><b>63</b> ... <b>3</b> ...</p> <p><b>64</b> ... <b>2</b> ...</p> <p><b>65</b> ... <b>1</b> ...</p>
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**Part C (20 credits)**

<p>Allow one credit for each correct answer to questions 66–73. The answers below represent sample responses. Other complete-sentence responses are acceptable. Allow no partial credit.</p> <p><b>66</b> The herbicides might kill other plants besides purple loosestrife.</p> <p><b>67</b> The beetle might eat a lot of the other plants instead, and the native species would not have enough food.</p> <p><b>68</b> The experimental group should be given Lowervil, and the control group should be given a sugar pill.</p> <p><b>69</b> The use of a large number of people would give better statistics.</p> <p><b>70</b> The researcher could take people’s blood pressure before they are given the medicine and then take it again after the treatment to see if the blood pressure decreased.</p> <p><b>71</b> Yes. The babies whose mothers drank alcohol were smaller (2,555 g and 46.8 cm) than the babies whose mothers did not drink alcohol (3,094 g and 50.1 cm).</p> <p><b>72</b> Scientists could get I.Q.’s of the children when they get older to determine if they have intellectual problems.</p> <p><b>73</b> Alcohol is a poison, and it could interfere with cell division as the fetus is developing.</p>
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Allow two credits for a correct answer to question 74. Allow no partial credit. The answer below represents a two-credit response.

- 74** If a person holds his or her breath too long, carbon dioxide can build up in the body. The person would faint, and normal breathing would start automatically to restore oxygen levels.

Allow a maximum of three credits for a correct answer to question 75, one credit for each correct example. The answer below represents a three-credit response.

- 75** Genetic engineering allows scientists to create disease-resistant plants, to clone sheep, and to make antibiotics.

Allow a maximum of seven credits for the answer to essay question 76, one credit for each of two human activities, one credit for each of three effects of the destruction of the habitat, and one credit for each of two ways the destruction of the habitat could be limited. The answer below represents a seven-credit response.

- 76** The rain forest is being destroyed by timber logging and by plants being burned to clear the land. These activities affect organisms by destroying their food supply, breeding grounds, and nesting areas. These activities also kill predators, leading to increases in some animals' populations. These populations cannot be sustained, so the animals die.

This destruction can be limited by using better farming methods on land that is already cleared or by finding alternatives to the mahogany wood being harvested.

### How to Compute Student Regents Grades

Each student's Regents grade will be obtained by using the following: 50% on-demand State examination, 15% locally developed laboratory performance test, and 35% course grade. The formula for calculating the students' Regents grades is provided on the front of the student answer paper. Computations for a sample score are shown below.

#### Formula:

$$\left( \frac{\text{Total Raw Score}}{85} \times .50 \right) + \left( \frac{\text{Laboratory Test Score}}{15} \times .15 \right) + (\text{Class Average} \times .35) = \text{Regents Grade}$$

All calculations should be carried to three decimal places. Rounding to two decimal places should be done only on the final result of the calculations.

#### Sample Score:

Total Raw Score (State Examination): 60

Laboratory Test Score: 13

Class Average: 85

$$\left( \frac{60}{85} \times .50 \right) + \left( \frac{13}{15} \times .15 \right) + (.85 \times .35) = \text{Regents Grade}$$

$$.353 + .130 + .298 = .781 = 78$$

Regents Grade = 78